TC-WR465

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Chinese Model

The mechanical and electrical specifications of TC-WR465 is almost same as that of TC-WR445.
So this manual contains only the points which differ from TC-WR445.
For the informations not contained in this manual, please refer to the TC-WR445 service manuals (9-959-400-□□) previously issued.

SPECIFICATION

Page	General	TC-WR465 (UK model)
2	Power requirement	220 – 230V AC, 50Hz

PARTS LIST

NOTE :
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  CND : Canadian G : German
  AUS : Australian CH : Chinese

Page	Ref. No.	TC-WR465
30	*4	3-920-377-01 PANEL, BACK (US)
	*4	3-920-377-11 PANEL, BACK (AEP, G, CH)
	*4	3-920-377-21 PANEL, BACK (UK)
	*4	3-920-377-31 PANEL, BACK (E)
	*4	3-920-377-41 PANEL, BACK (AUS)
	*4	3-920-377-51 PANEL, BACK (CND)
31	51	X-3369-658-1 FRONT PANEL ASSY (US, CND)
	51	X-3369-659-1 FRONT PANEL ASSY (EXCEPT US, CND)
	54	X-3369-661-1 LID (B) ASSY, CASSETTE
	55	X-3369-660-1 LID (A) ASSY, CASSETTE
37		1-551-734-11 CORD, CONNECTION (RK-74A)
		3-798-554-11 MANUAL, INSTRUCTION (ENGLISH/FRENCH/ SPANISH, PORTUGUESE) (AEP, E)
		3-798-554-21 MANUAL, INSTRUCTION (ENGLISH) (US, CND, UK, AUS)
		3-798-554-31 MANUAL, INSTRUCTION (FRENCH) (CND)
		3-798-554-41 MANUAL, INSTRUCTION (GERMAN/DUTCH/ SWEDISH/ITALIAN) (AEP)
		3-798-554-51 MANUAL, INSTRUCTION (GERMAN) (G)
		3-798-554-61 MANUAL, INSTRUCTION (CHINESE) (CH)
	*	3-921-800-41 INDIVIDUAL CARTON (US, CND, E, AUS)
	*	3-921-800-51 INDIVIDUAL CARTON (AEP, UK, G, CH)

STEREO CASSETTE DECK

SONY®

MICROFILM

9-960-145-11

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

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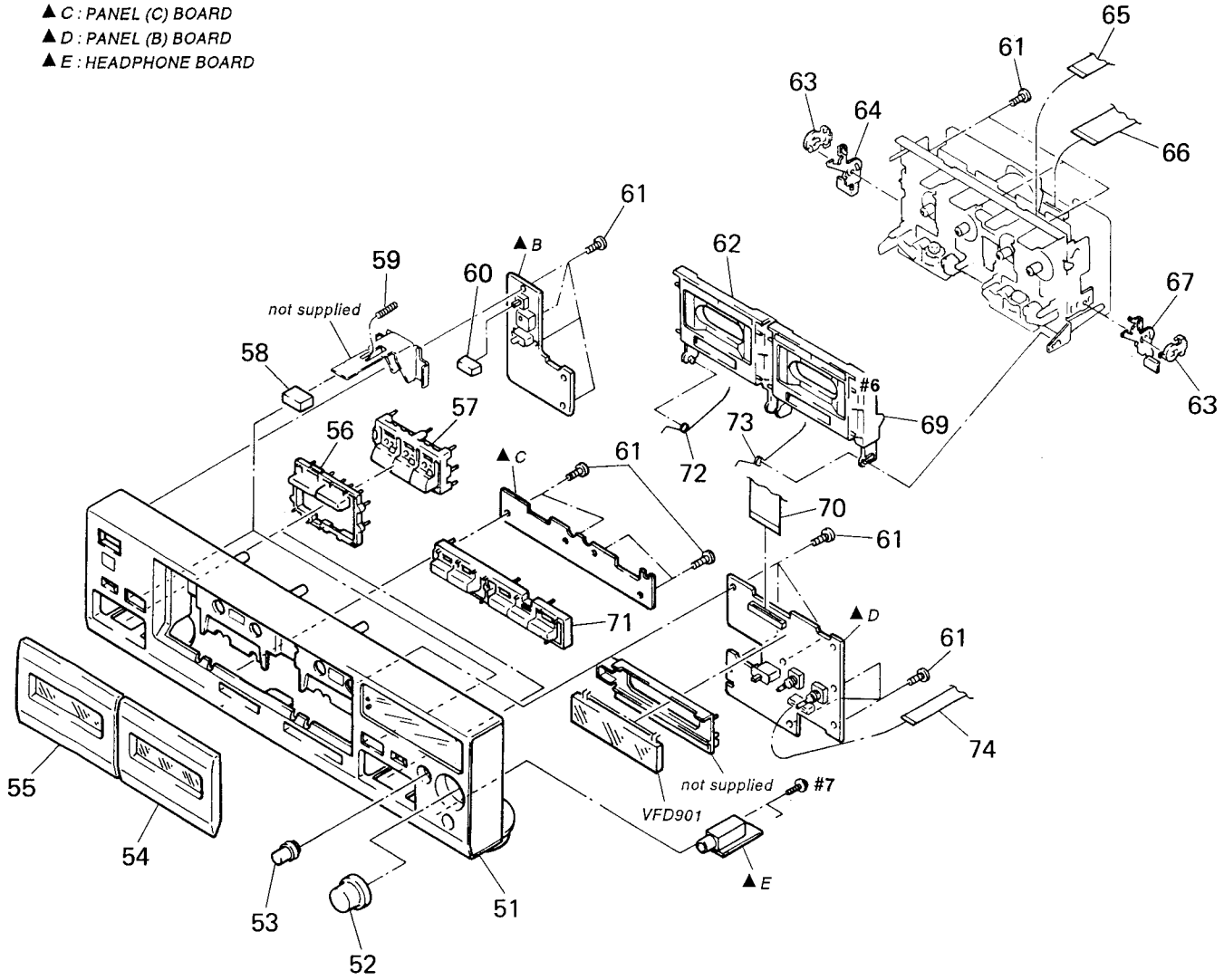
Published by Home A&VP roducts Div.
Quality Engn eering Dept.

6-2. FRONT PANEL SECTION

▲ B : PANEL (A) BOARD
▲ C : PANEL (C) BOARD
▲ D : PANEL (B) BOARD
▲ E : HEADPHONE BOARD



Ref. No.	Part No.	Description	Remark
51	X-3368-528-1	FRONT PANEL ASSY (US, Canadian)	
51	X-3368-529-1	FRONT PANEL ASSY (AEP, UK, E, G, EE, AUS)	
52	3-909-661-11	KNOB (REC)	
53	3-367-431-01	KNOB (BAL)	
54	X-3367-883-1	LID (B) ASSY, CASSETTE	
55	X-3367-882-1	LID (A) ASSY, CASSETTE	
56	3-910-560-01	BUTTON (A)	
57	3-910-561-01	BUTTON (B)	
58	3-359-907-11	BUTTON (EJECT)	
59	3-500-131-00	SPRING, COMPRESSION	
60	4-922-921-01	BUTTON (POWER)	
61	4-951-620-01	SCREW (2.6X8), +BVTP	

Ref. No.	Part No.	Description	Remark
62	X-3368-559-1	HOLDER (L) ASSY, CASSETTE	
63	3-354-957-01	JOINT (LOCK LEVER)	
* 64	3-354-953-01	LEVER (LOCK LEVER L)	
65	1-575-783-21	WIRE, FLAT TYPE (9 CORE)	
66	1-765-402-11	WIRE (FLAT TYPE) (21 CORE)	
* 67	3-354-954-01	LEVER (LOCK LEVER R)	
69	X-3368-560-1	HOLDER (R) ASSY, CASSETTE	
70	1-765-403-11	WIRE (FLAT TYPE) (29 CORE)	
71	3-910-562-01	BUTTON (C)	
72	4-959-231-01	SPRING (L), TORSION	
73	4-959-232-01	SPRING (R), TORSION	
74	1-765-401-11	WIRE (FLAT TYPE) (11 CORE)	
VFD901	1-519-712-11	INDICATOR TUBE, FLUORESCENT	

SECTION 7
ELECTRICAL PARTS LIST

AUDIO

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μA.... , uPA.... : μPA....
  uPB.... : μPB.... , uPC.... : μPC....
  uPD.... : μPD....
- CAPACITORS
  uF : μF
- COILS
  uH : μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

- Abbreviations
  G : German model
  AUS : Australian model
  EE : East European model

Ref. No.	Part No.	Description			Remark
*	A-2007-129-A	AUDIO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C301	1-162-289-31	CERAMIC	390PF	10%	50V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-130-487-00	MYLAR	0.022uF	5%	50V
C305	1-124-234-00	ELECT	22uF	20%	16V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-162-282-31	CERAMIC	100PF	10%	50V
C314	1-130-487-00	MYLAR	0.022uF	5%	50V
C315	1-124-234-00	ELECT	22uF	20%	16V
C331	1-107-609-91	CERAMIC	75PF	5%	500V
C332	1-162-288-31	CERAMIC	330PF	10%	50V
C341	1-161-494-00	CERAMIC	0.022uF		25V
C342	1-136-165-00	FILM	0.1uF	5%	50V
C343	1-162-306-11	CERAMIC	0.01uF	20%	16V
C344	1-130-472-00	MYLAR	0.0012uF	5%	50V
C345	1-107-612-91	CERAMIC	100PF	5%	500V
C346	1-136-478-11	FILM	470PF	5%	630V
C401	1-162-289-31	CERAMIC	390PF	10%	50V
C403	1-162-282-31	CERAMIC	100PF	10%	50V
C404	1-130-487-00	MYLAR	0.022uF	5%	50V
C405	1-124-234-00	ELECT	22uF	20%	16V
C411	1-162-289-31	CERAMIC	390PF	10%	50V
C413	1-162-282-31	CERAMIC	100PF	10%	50V
C414	1-130-487-00	MYLAR	0.022uF	5%	50V
C415	1-124-234-00	ELECT	22uF	20%	16V
C431	1-107-609-91	CERAMIC	75PF	5%	500V
C432	1-162-288-31	CERAMIC	330PF	10%	50V
C441	1-161-494-00	CERAMIC	0.022uF		25V
C442	1-136-165-00	FILM	0.1uF	5%	50V
C443	1-162-306-11	CERAMIC	0.01uF	20%	16V
C444	1-130-472-00	MYLAR	0.0012uF	5%	50V
C445	1-107-612-91	CERAMIC	100PF	5%	500V
C446	1-136-478-11	FILM	470PF	5%	630V
C601	1-126-157-11	ELECT	10uF	20%	16V
C602	1-126-157-11	ELECT	10uF	20%	16V
C611	1-126-157-11	ELECT	10uF	20%	16V
C612	1-126-157-11	ELECT	10uF	20%	16V
C621	1-136-601-11	FILM	0.01uF	5%	630V
C622	1-124-925-11	ELECT	2.2uF	20%	100V
C623	1-130-481-00	MYLAR	0.0068uF	5%	50V
C624	1-130-475-00	MYLAR	0.0022uF	5%	50V
C625	1-130-475-00	MYLAR	0.0022uF	5%	50V
C641	1-124-638-11	ELECT	22uF	20%	10V
C642	1-124-477-11	ELECT	47uF	20%	25V
C643	1-124-465-00	ELECT	0.47uF	20%	50V
C644	1-107-584-11	CERAMIC	4PF	0.25PF	500V
C651	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN601	1-750-462-11	CONNECTOR, FFC/FPC 21P			
* CN651	1-564-521-11	PLUG, CONNECTOR 6P			
		< DIODE >			
D601	8-719-987-63	DIODE	1N4148M		
		< IC >			
IC601	8-759-111-44	IC	uPC4570C-1		
IC611	8-759-111-44	IC	uPC4570C-1		
IC641	8-759-106-56	IC	uPC1297CA		
		< COIL >			
L331	1-410-780-11	INDUCTOR	27mH		
L431	1-410-780-11	INDUCTOR	27mH		

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q621	8-729-194-57	TRANSISTOR 2SC945-P			
Q622	8-729-194-57	TRANSISTOR 2SC945-P			
Q623	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q651	8-729-900-65	TRANSISTOR DTA144ES			
		< RESISTOR >			
R301	1-247-881-00	CARBON	120K	5% 1/4W	
R302	1-247-807-31	CARBON	100	5% 1/4W	
R304	1-247-882-11	CARBON	130K	5% 1/4W	
R305	1-247-850-11	CARBON	6.2K	5% 1/4W	
R311	1-247-881-00	CARBON	120K	5% 1/4W	
R312	1-247-807-31	CARBON	100	5% 1/4W	
R314	1-247-882-11	CARBON	130K	5% 1/4W	
R315	1-247-850-11	CARBON	6.2K	5% 1/4W	
R331	1-249-430-11	CARBON	12K	5% 1/4W	
R341	1-249-429-11	CARBON	10K	5% 1/4W	
R342	1-249-435-11	CARBON	33K	5% 1/4W	
R343	1-247-883-00	CARBON	150K	5% 1/4W	
⚠R344	1-212-857-00	FUSIBLE	10	5% 1/4W F	
R401	1-247-881-00	CARBON	120K	5% 1/4W	
R402	1-247-807-31	CARBON	100	5% 1/4W	
R404	1-247-882-11	CARBON	130K	5% 1/4W	
R405	1-247-850-11	CARBON	6.2K	5% 1/4W	
R411	1-247-881-00	CARBON	120K	5% 1/4W	
R412	1-247-807-31	CARBON	100	5% 1/4W	
R414	1-247-882-11	CARBON	130K	5% 1/4W	
R415	1-247-850-11	CARBON	6.2K	5% 1/4W	
R431	1-249-430-11	CARBON	12K	5% 1/4W	
R441	1-249-429-11	CARBON	10K	5% 1/4W	
R442	1-249-435-11	CARBON	33K	5% 1/4W	
R443	1-247-883-00	CARBON	150K	5% 1/4W	
⚠R444	1-212-857-00	FUSIBLE	10	5% 1/4W F	
R601	1-249-409-11	CARBON	220	5% 1/4W	
R602	1-249-409-11	CARBON	220	5% 1/4W	
R611	1-249-409-11	CARBON	220	5% 1/4W	
R612	1-249-409-11	CARBON	220	5% 1/4W	
⚠R621	1-212-851-00	FUSIBLE	5.6	5% 1/4W F	
⚠R622	1-212-851-00	FUSIBLE	5.6	5% 1/4W F	
R623	1-249-441-11	CARBON	100K	5% 1/4W	
R624	1-249-441-11	CARBON	100K	5% 1/4W	
R625	1-249-429-11	CARBON	10K	5% 1/4W	
R626	1-249-429-11	CARBON	10K	5% 1/4W	
R651	1-247-856-00	CARBON	11K	5% 1/4W	
R652	1-247-856-00	CARBON	11K	5% 1/4W	
R653	1-249-441-11	CARBON	100K	5% 1/4W	

Ref. No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV301	1-241-628-11	RES, ADJ, CARBON 2.2K (PB LEVEL L)	(DECK-B)
RV311	1-241-628-11	RES, ADJ, CARBON 2.2K (PB LEVEL L)	(DECK-A)
RV341	1-241-786-11	RES, ADJ, CERMET 22K (REC BIAS L)	
RV401	1-241-628-11	RES, ADJ, CARBON 2.2K (PB LEVEL R)	(DECK-B)
RV411	1-241-786-11	RES, ADJ, CERMET 2.2K (PB LEVEL R)	(DECK-A)
RV441	1-241-786-11	RES, ADJ, CERMET 22K (REC BIAS R)	
RV651	1-241-763-11	RES, ADJ, CARBON 4.7K	(TAPE SPEED NORMAL)
RV652	1-241-763-11	RES, ADJ, CARBON 4.7K (TAPE SPEED HIGH)	
		< RELAY >	
RY601	1-515-913-11	RELAY	
		< TRANSFORMER >	
T341	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
T441	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
T621	1-406-417-11	COIL, BIAS OSCILLATION	
		< TEST PIN >	
* TP341	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	
**********			
*	1-650-669-11	LEAF SW BOARD	
		**********	
*	3-381-776-01	HOLDER (LED)	
		< CONNECTOR >	
* CN1001	1-568-854-11	SOCKET, CONNECTOR 11P	
		< TRANSISTOR >	
Q1001	8-719-710-02	TRANSISTOR NJL5165K-A	
Q1002	8-719-710-02	TRANSISTOR NJL5165K-A	
		< RESISTOR >	
R1001	1-249-412-11	CARBON 390 5% 1/4W	
R1002	1-249-412-11	CARBON 390 5% 1/4W	
R1003	1-249-414-11	CARBON 560 5% 1/4W	
R1004	1-247-834-11	CARBON 1.3K 5% 1/4W	
R1005	1-247-818-11	CARBON 300 5% 1/4W	
		< SWITCH >	
S1001	1-692-832-11	SWITCH, PUSH (1 KEY)(A PLAY)	
S1002	1-692-832-11	SWITCH, PUSH (1 KEY)(B PLAY)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

LEAF SW | SYSTEM CONTROL

Ref. No.	Part No.	Description	Remark
S1003	1-572-248-11	SWITCH, LEAF (A HALF)	
S1004	1-571-281-21	SWITCH, LEAF (A CrO_2)	
S1005	1-571-281-21	SWITCH, LEAF (REC A)	
S1006	1-572-248-11	SWITCH, LEAF (B HALF)	
S1007	1-571-281-21	SWITCH, LEAF (B METAL)	
S1008	1-571-281-21	SWITCH, LEAF (B CrO_2)	
S1009	1-571-281-21	SWITCH, LEAF (REC B)	
**********			
*	A-2007-164-A	SYSTEM CONTROL BOARD, COMPLETE(E)	
*	A-2007-165-A	SYSTEM CONTROL BOARD, COMPLETE	(UK, AUS)
*	A-2007-166-A	SYSTEM CONTROL BOARD, COMPLETE	(AEP, G, EE)
*	A-2007-167-A	SYSTEM CONTROL BOARD, COMPLETE	(US, Canadian)
		**********	
*	4-942-204-01	PLATE, GROUND	
		< CAPACITOR >	
C101	1-164-159-11	CERAMIC 0.1uF	50V
C102	1-162-294-31	CERAMIC 0.001uF 10%	50V
C103	1-124-925-11	ELECT 2.2uF 20%	100V
C104	1-124-925-11	ELECT 2.2uF 20%	100V
C105	1-124-927-11	ELECT 4.7uF 20%	100V
C106	1-124-902-00	ELECT 0.47uF 20%	50V
C107	1-124-907-11	ELECT 10uF 20%	50V
C108	1-124-927-11	ELECT 4.7uF 20%	100V
C109	1-137-457-11	MYLAR 0.0027uF 5%	50V
C110	1-136-165-00	FILM 0.1uF 5%	50V
C111	1-136-163-00	FILM 0.068uF 5%	50V
C112	1-124-907-11	ELECT 10uF 20%	50V
C113	1-124-927-11	ELECT 4.7uF 20%	100V
C114	1-124-925-11	ELECT 2.2uF 20%	100V
C115	1-124-443-00	ELECT 100uF 20%	10V
C116	1-126-233-11	ELECT 22uF 20%	50V
C190	1-162-306-11	CERAMIC 0.01uF 20%	16V
C201	1-164-159-11	CERAMIC 0.1uF	50V
C202	1-162-294-31	CERAMIC 0.001uF 10%	50V
C203	1-124-925-11	ELECT 2.2uF 20%	100V
C204	1-124-925-11	ELECT 2.2uF 20%	100V
C205	1-124-927-11	ELECT 4.7uF 20%	100V
C206	1-124-902-00	ELECT 0.47uF 20%	50V
C207	1-124-907-11	ELECT 10uF 20%	50V
C208	1-124-927-11	ELECT 4.7uF 20%	100V
C209	1-137-457-11	MYLAR 0.0027uF 5%	50V
C210	1-136-165-00	FILM 0.1uF 5%	50V
C211	1-136-163-00	FILM 0.068uF 5%	50V
C212	1-124-907-11	ELECT 10uF 20%	50V
C213	1-124-927-11	ELECT 4.7uF 20%	100V

Ref. No.	Part No.	Description	Remark
C214	1-124-925-11	ELECT 2.2uF 20%	100V
C215	1-124-443-00	ELECT 100uF 20%	10V
C216	1-126-233-11	ELECT 22uF 20%	50V
C290	1-162-306-11	CERAMIC 0.01uF 20%	16V
C501	1-124-907-11	ELECT 10uF 20%	50V
C502	1-124-907-11	ELECT 10uF 20%	50V
C503	1-124-925-11	ELECT 2.2uF 20%	100V
C504	1-124-126-00	ELECT 47uF 20%	10V
C505	1-124-126-00	ELECT 47uF 20%	10V
C506	1-124-443-00	ELECT 100uF 20%	10V
C507	1-124-907-11	ELECT 10uF 20%	50V
C510	1-124-477-11	ELECT 47uF 20%	25V
C701	1-124-903-11	ELECT 1uF 20%	50V
C702	1-126-017-11	ELECT 6800uF 20%	16V(EXCEPT E)
C702	1-126-946-11	ELECT 6800uF 20%	25V(E)
C703	1-126-017-11	ELECT 6800uF 20%	16V(EXCEPT E)
C703	1-126-946-11	ELECT 6800uF 20%	25V(E)
C704	1-124-927-11	ELECT 4.7uF 20%	100V
C705	1-124-472-11	ELECT 470uF 20%	10V
C706	1-126-233-11	ELECT 22uF 20%	50V
C707	1-126-927-11	ELECT 2200uF 20%	10V
C708	1-126-927-11	ELECT 2200uF 20%	10V
C709	1-124-122-11	ELECT 100uF 20%	50V
C710	1-124-916-11	ELECT 22uF 20%	63V
C711	1-124-927-11	ELECT 4.7uF 20%	100V
C801	1-124-927-11	ELECT 4.7uF 20%	100V
C802	1-164-159-11	CERAMIC 0.1uF	50V
C804	1-124-443-00	ELECT 100uF 20%	10V
C805	1-164-159-11	CERAMIC 0.1uF	50V
C806	1-124-360-00	ELECT 1000uF 20%	16V
C890	1-164-159-11	CERAMIC 0.1uF	50V
C891	1-164-159-11	CERAMIC 0.1uF	50V
C892	1-164-159-11	CERAMIC 0.1uF	50V
C893	1-164-159-11	CERAMIC 0.1uF	50V
C894	1-164-159-11	CERAMIC 0.1uF	50V
C895	1-162-306-11	CERAMIC 0.01uF 20%	16V
C896	1-162-306-11	CERAMIC 0.01uF 20%	16V
		< CONNECTOR >	
CN501	1-506-468-11	PIN, CONNECTOR 3P	
CN502	1-750-414-11	CONNECTOR, FFC/FPC 9P	
* CN700	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P	
CN701	1-766-280-11	PIN, CONNECTOR (PC BOARD) 7P	
CN702	1-766-280-11	PIN, CONNECTOR (PC BOARD) 7P	
CN801	1-750-426-11	CONNECTOR, FFC/FPC 21P	
* CN802	1-750-416-11	CONNECTOR, FFC/FPC 11P	
CN803	1-750-434-11	CONNECTOR, FFC/FPC 29P	
* CN804	1-568-936-11	PIN, CONNECTOR 9P	
* CN902	1-568-871-11	SOCKET, CONNECTOR 29P	

SYSTEM CONTROL

Ref. No.	Part No.	Description	Remark
* CN904	1-564-337-61	PIN, CONNECTOR 3P	
CN905	1-750-414-11	CONNECTOR, FFC/FPC 9P	
CN1700	1-568-106-11	PIN, CONNECTOR 4P(E)	
		< DIODE >	
D101	8-719-933-33	DIODE HZS6A1L	
D201	8-719-933-33	DIODE HZS6A1L	
D501	8-719-987-63	DIODE 1N4148M	
D701	8-719-024-99	DIODE 11ES2-NTA2B	
D702	8-719-024-99	DIODE 11ES2-NTA2B	
D703	8-719-024-99	DIODE 11ES2-NTA2B	
D704	8-719-024-99	DIODE 11ES2-NTA2B	
D705	8-719-987-63	DIODE 1N4148M	
D706	8-719-987-63	DIODE 1N4148M	
D707	8-719-024-99	DIODE 11ES2-NTA2B	
D708	8-719-987-63	DIODE 1N4148M	
D709	8-719-933-38	DIODE HZS6B3L	
D710	8-719-000-54	DIODE uZL-6L3	
D711	8-719-933-33	DIODE HZS6A1L	
D712	8-719-987-63	DIODE 1N4148M	
D713	8-719-987-63	DIODE 1N4148M	
D714	8-719-000-78	DIODE uZL-7L2	
D715	8-719-933-33	DIODE HZS6A1L	
D716	8-719-987-63	DIODE 1N4148M	
		< IC >	
IC501	8-752-060-46	IC CXA1561S	
IC502	8-752-058-57	IC CXA1599Q	
IC503	8-759-145-58	IC uPC4558C	
IC701	8-759-145-58	IC uPC4558C	
IC801	8-759-283-57	IC M38122M2-066FP	
IC802	8-759-165-82	IC PST600E-T	
IC803	8-759-822-09	IC LB1641	
IC804	8-759-000-48	IC MC14052BCP	
IC901	8-741-100-48	IC SBX1610-59	
		< JACK >	
J501	1-750-735-11	JACK (LARGE TYPE)(HEADPHONES)	
		< FILTER >	
LPF101	1-231-388-00	FILTER, LOW PASS	
LPF201	1-231-388-00	FILTER, LOW PASS	
		< JACK >	
PJ501	1-565-258-11	JACK, PIN 4P(LINE IN/OUT)	
		< TRANSISTOR >	
Q101	8-729-900-80	TRANSISTOR DTC114ES	
Q102	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q201	8-729-900-80	TRANSISTOR DTC114ES	
Q202	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q501	8-729-900-80	TRANSISTOR DTC114ES	
Q502	8-729-900-61	TRANSISTOR DTA114ES	
Q503	8-729-900-74	TRANSISTOR DTC143TS	
Q505	8-729-900-65	TRANSISTOR DTA144ES	
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q702	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q703	8-729-900-80	TRANSISTOR DTC114ES	
Q704	8-729-900-80	TRANSISTOR DTC114ES	
Q705	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q706	8-729-019-01	TRANSISTOR 2SD2394-EF	
Q707	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q708	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q801	8-729-900-74	TRANSISTOR DTC143TS	
Q802	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q803	8-729-900-89	TRANSISTOR DTC144ES	
Q804	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q805	8-729-900-89	TRANSISTOR DTC144ES	
Q806	8-729-801-93	TRANSISTOR 2SD1387	
Q807	8-729-900-74	TRANSISTOR DTC143TS	
Q808	8-729-900-65	TRANSISTOR DTA144ES	
Q809	8-729-900-61	TRANSISTOR DTA114ES	
		< RESISTOR >	
R101	1-249-432-11	CARBON 18K 5% 1/4W	
R102	1-247-838-00	CARBON 2K 5% 1/4W	
R103	1-249-429-11	CARBON 10K 5% 1/4W	
R104	1-247-856-00	CARBON 11K 5% 1/4W	
R105	1-247-887-00	CARBON 220K 5% 1/4W	
R106	1-249-421-11	CARBON 2.2K 5% 1/4W	
R107	1-249-417-11	CARBON 1K 5% 1/4W	
R108	1-249-429-11	CARBON 10K 5% 1/4W	
R109	1-249-434-11	CARBON 27K 5% 1/4W	
R110	1-249-441-11	CARBON 100K 5% 1/4W	
R111	1-249-435-11	CARBON 33K 5% 1/4W	
R112	1-249-417-11	CARBON 1K 5% 1/4W	
R113	1-249-423-11	CARBON 3.3K 5% 1/4W	
R114	1-249-441-11	CARBON 100K 5% 1/4W	
R115	1-249-428-11	CARBON 8.2K 5% 1/4W	
R116	1-249-429-11	CARBON 10K 5% 1/4W	
R117	1-249-421-11	CARBON 2.2K 5% 1/4W	
R118	1-249-439-11	CARBON 68K 5% 1/4W	
R119	1-249-425-11	CARBON 4.7K 5% 1/4W	
R120	1-249-417-11	CARBON 1K 5% 1/4W	
R121	1-249-409-11	CARBON 220 5% 1/4W	
R122	1-249-441-11	CARBON 100K 5% 1/4W	
R201	1-249-432-11	CARBON 18K 5% 1/4W	

SYSTEM CONTROL

Ref. No.	Part No.	Description				Remark
R202	1-247-838-00	CARBON	2K	5%	1/4W	
R203	1-249-429-11	CARBON	10K	5%	1/4W	
R204	1-247-856-00	CARBON	11K	5%	1/4W	
R205	1-247-887-00	CARBON	220K	5%	1/4W	
R206	1-249-421-11	CARBON	2.2K	5%	1/4W	
R207	1-249-417-11	CARBON	1K	5%	1/4W	
R208	1-249-429-11	CARBON	10K	5%	1/4W	
R209	1-249-434-11	CARBON	27K	5%	1/4W	
R210	1-249-441-11	CARBON	100K	5%	1/4W	
R211	1-249-435-11	CARBON	33K	5%	1/4W	
R212	1-249-417-11	CARBON	1K	5%	1/4W	
R213	1-249-423-11	CARBON	3.3K	5%	1/4W	
R214	1-249-441-11	CARBON	100K	5%	1/4W	
R215	1-249-428-11	CARBON	8.2K	5%	1/4W	
R216	1-249-429-11	CARBON	10K	5%	1/4W	
R217	1-249-421-11	CARBON	2.2K	5%	1/4W	
R218	1-249-439-11	CARBON	68K	5%	1/4W	
R219	1-249-425-11	CARBON	4.7K	5%	1/4W	
R220	1-249-417-11	CARBON	1K	5%	1/4W	
R221	1-249-409-11	CARBON	220	5%	1/4W	
R222	1-249-441-11	CARBON	100K	5%	1/4W	
R501	1-215-452-00	METAL	20K	1%	1/6W	
R502	1-249-429-11	CARBON	10K	5%	1/4W	
R503	1-249-433-11	CARBON	22K	5%	1/4W	
R504	1-249-434-11	CARBON	27K	5%	1/4W	
R505	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R506	1-212-865-00	FUSIBLE	22	5%	1/4W	F
R507	1-249-423-11	CARBON	3.3K	5%	1/4W	
R508	1-249-437-11	CARBON	47K	5%	1/4W	
R513	1-249-437-11	CARBON	47K	5%	1/4W	
R514	1-249-437-11	CARBON	47K	5%	1/4W	
R515	1-249-437-11	CARBON	47K	5%	1/4W	
R516	1-249-434-11	CARBON	27K	5%	1/4W	
R517	1-249-435-11	CARBON	33K	5%	1/4W	
R518	1-249-421-11	CARBON	2.2K	5%	1/4W	
R519	1-249-432-11	CARBON	18K	5%	1/4W	
R520	1-249-430-11	CARBON	12K	5%	1/4W	
R523	1-249-429-11	CARBON	10K	5%	1/4W	
R524	1-249-417-11	CARBON	1K	5%	1/4W	
R701	1-249-417-11	CARBON	1K	5%	1/4W	
R702	1-249-428-11	CARBON	8.2K	5%	1/4W	
R703	1-249-421-11	CARBON	2.2K	5%	1/4W	
R704	1-249-429-11	CARBON	10K	5%	1/4W	
R705	1-249-421-11	CARBON	2.2K	5%	1/4W	
R706	1-249-425-11	CARBON	4.7K	5%	1/4W	
R707	1-247-852-11	CARBON	7.5K	5%	1/4W	
R708	1-249-419-11	CARBON	1.5K	5%	1/4W	
R709	1-249-429-11	CARBON	10K	5%	1/4W	
R710	1-249-419-11	CARBON	1.5K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R711	1-249-425-11	CARBON	4.7K	5%	1/4W	
R712	1-249-427-11	CARBON	6.8K	5%	1/4W	
R713	1-249-427-11	CARBON	6.8K	5%	1/4W	
R714	1-249-417-11	CARBON	1K	5%	1/4W	
R715	1-249-421-11	CARBON	2.2K	5%	1/4W	
R716	1-249-429-11	CARBON	10K	5%	1/4W	
R717	1-249-430-11	CARBON	12K	5%	1/4W	
R718	1-249-437-11	CARBON	47K	5%	1/4W	
R719	1-249-414-11	CARBON	560	5%	1/4W	
R720	1-249-413-11	CARBON	470	5%	1/4W	
R721	1-249-476-11	CARBON	1.5	5%	1/2W	
⚠R722	1-219-137-11	FUSIBLE	0.33	10%	1/4W	F
R801	1-247-895-00	CARBON	470K	5%	1/4W	
R802	1-247-895-00	CARBON	470K	5%	1/4W	
R803	1-249-433-11	CARBON	22K	5%	1/4W	
R804	1-249-433-11	CARBON	22K	5%	1/4W	
R805	1-249-441-11	CARBON	100K	5%	1/4W	
R806	1-249-433-11	CARBON	22K	5%	1/4W	
R807	1-249-433-11	CARBON	22K	5%	1/4W	
R808	1-249-425-11	CARBON	4.7K	5%	1/4W	
R809	1-249-425-11	CARBON	4.7K	5%	1/4W	
R810	1-249-425-11	CARBON	4.7K	5%	1/4W	
R811	1-249-429-11	CARBON	10K	5%	1/4W	
R812	1-249-425-11	CARBON	4.7K	5%	1/4W	
R813	1-249-425-11	CARBON	4.7K	5%	1/4W	
R815	1-249-414-11	CARBON	560	5%	1/4W	
R816	1-249-429-11	CARBON	10K	5%	1/4W	
R817	1-249-431-11	CARBON	15K	5%	1/4W	
R818	1-249-418-11	CARBON	1.2K	5%	1/4W	
R819	1-249-425-11	CARBON	4.7K	5%	1/4W	
R820	1-249-429-11	CARBON	10K	5%	1/4W	
R821	1-249-429-11	CARBON	10K	5%	1/4W	
R822	1-249-433-11	CARBON	22K	5%	1/4W	
R823	1-249-417-11	CARBON	1K	5%	1/4W	
R824	1-249-429-11	CARBON	10K	5%	1/4W	
R825	1-249-429-11	CARBON	10K	5%	1/4W	
R826	1-249-429-11	CARBON	10K	5%	1/4W	
R827	1-249-429-11	CARBON	10K	5%	1/4W	
R828	1-249-425-11	CARBON	4.7K	5%	1/4W	
R829	1-249-436-11	CARBON	39K	5%	1/4W	
R830	1-249-436-11	CARBON	39K	5%	1/4W	
R831	1-247-903-00	CARBON	1M	5%	1/4W	
R832	1-249-431-11	CARBON	15K	5%	1/4W	
R833	1-249-435-11	CARBON	33K	5%	1/4W	
R834	1-249-426-11	CARBON	5.6K	5%	1/4W	
R835	1-249-417-11	CARBON	1K	5%	1/4W	
R836	1-249-441-11	CARBON	100K	5%	1/4W	
R837	1-249-441-11	CARBON	100K	5%	1/4W	
R838	1-249-441-11	CARBON	100K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

SYSTEM CONTROL

Ref. No.	Part No.	Description			Remark
R839	1-249-429-11	CARBON	10K	5%	1/4W
R901	1-249-418-11	CARBON	1.2K	5%	1/4W
R902	1-249-420-11	CARBON	1.8K	5%	1/4W
R903	1-249-418-11	CARBON	1.2K	5%	1/4W
R904	1-249-420-11	CARBON	1.8K	5%	1/4W
R905	1-249-422-11	CARBON	2.7K	5%	1/4W
R906	1-249-418-11	CARBON	1.2K	5%	1/4W
R907	1-249-420-11	CARBON	1.8K	5%	1/4W
R908	1-249-422-11	CARBON	2.7K	5%	1/4W
R909	1-249-418-11	CARBON	1.2K	5%	1/4W
R910	1-249-420-11	CARBON	1.8K	5%	1/4W
R911	1-249-422-11	CARBON	2.7K	5%	1/4W
R912	1-249-424-11	CARBON	3.9K	5%	1/4W
R913	1-249-427-11	CARBON	6.8K	5%	1/4W
R914	1-249-431-11	CARBON	15K	5%	1/4W
R915	1-249-437-11	CARBON	47K	5%	1/4W
		< VARIABLE RESISTOR >			
RV101	1-241-630-11	RES, ADJ, CARBON 10K (RECORD LEVEL L)			
RV201	1-241-630-11	RES, ADJ, CARBON 10K (RECORD LEVEL R)			
RV501	1-223-617-11	RES, VAR, CARBON 5K/5K(REC LEVEL)			
RV502	1-223-616-11	RES, VAR, CARBON 5K/5K(BALANCE)			
		< SWITCH >			
S701	1-554-118-00	SWITCH, PUSH (1 KEY)(POWER)			
S901	1-554-303-21	SWITCH, TACTILE (□)(DECK-A)			
S902	1-554-303-21	SWITCH, TACTILE (▷)(DECK-A)			
S903	1-554-303-21	SWITCH, TACTILE (◁)(DECK-A)			
S904	1-554-303-21	SWITCH, TACTILE (◁◁)(DECK-A)			
S905	1-554-303-21	SWITCH, TACTILE (▷▷)(DECK-A)			
S906	1-692-126-11	SWITCH, SLIDE (DIRECTION)			
S907	1-554-303-21	SWITCH, TACTILE (□)(DECK-B)			
S908	1-554-303-21	SWITCH, TACTILE (▷)(DECK-B)			
S909	1-554-303-21	SWITCH, TACTILE (◁)(DECK-B)			
S910	1-554-303-21	SWITCH, TACTILE (COUNTER RESET)(DECK-A)			
S911	1-554-303-21	SWITCH, TACTILE (◁◁)(DECK-B)			
S912	1-554-303-21	SWITCH, TACTILE (▷▷)(DECK-B)			
S913	1-554-303-21	SWITCH, TACTILE (REC)			
S914	1-554-303-21	SWITCH, TACTILE (PAUSE)			
S915	1-554-303-21	SWITCH, TACTILE (REC MUTE)			
S916	1-554-303-21	SWITCH, TACTILE (NORMER)			
S917	1-554-303-21	SWITCH, TACTILE (HIGHT)			
S918	1-554-303-21	SWITCH, TACTILE (COUNTER RESET)(DECK-B)			
S919	1-692-126-11	SWITCH, SLIDE (DOLBY NR)			
		< TEST PIN >			
* TP801	1-564-505-11	PLUG, CONNECTOR 2P			

Ref. No.	Part No.	Description	Remark
		< INDICATOR TUBE >	
VFD901	1-519-712-11	INDICATOR TUBE, FLUORESCENT	
		< CRYSTAL >	
X801	1-577-358-21	VIBRATOR, CERAMIC(4MHz)	
**********			
		MISCELLANEOUS	
		**********	
⚠6	1-558-945-21	CORD, POWER (POLAR. SPT-1)(US, Canadian)	
⚠6	1-575-651-21	CORD, POWER(AEP, G, EE)	
⚠6	1-575-653-21	CORD, POWER(E)	
⚠6	1-696-586-11	CORD, POWER(UK)	
⚠6	1-696-845-11	CORD, POWER(AUS)	
⚠11	1-569-007-11	ADAPTER, CONVERSION 2P(E)	
65	1-575-783-21	WIRE, FLAT TYPE (9 CORE)	
66	1-765-402-11	WIRE (FLAT TYPE) (21 CORE)	
70	1-765-403-11	WIRE (FLAT TYPE) (29 CORE)	
74	1-765-401-11	WIRE (FLAT TYPE) (11 CORE)	
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK)(DECK-A)	
HRPE101	1-500-094-11	HEAD, MAGNETIC (REC/PB/ERASE)(DECK-B)	
M1	X-3369-110-1	MOTOR ASSY(CAPSTAN)	
M2	X-3369-111-1	MOTOR ASSY(TRRIGER)	
⚠T701	1-426-811-11	TRANSFORMER, POWER(E)	
⚠T701	1-426-812-11	TRANSFORMER, POWER(US, Canadian)	
⚠T701	1-426-813-11	TRANSFORMER, POWER(AEP, UK, G, EE, AUS)	
⚠VS701	1-692-155-11	SELECTOR, POWER VOLTAGE (VOLTAGE SELECTOR)(E)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-558-271-11	CORD, CONNECTION	
	1-558-271-11	CORD, CONNECTION	
	1-558-271-11	CORD, CONNECTION	
*	3-380-107-21	INDIVIDUAL CARTON	
	3-758-424-11	MANUAL, INSTRUCTION(ENGLISH/FRENCH/SPANISH/PORTUGUESE)(AEP, E)	
	3-758-424-21	MANUAL, INSTRUCTION(ENGLISH) (US, Canadian, UK, AUS)	
	3-758-424-31	MANUAL, INSTRUCTION(FRENCH)(Canadian)	
	3-758-424-41	MANUAL, INSTRUCTION(GERMAN/DUTCH/SWEDISH/ITALIAN)(AEP)	
	3-758-424-51	MANUAL, INSTRUCTION(GERMAN)(G)	
	3-758-424-61	MANUAL, INSTRUCTION(ENGLISH, RUSSIAN/POLISH/CZECH/HUNGARIAN)(EE)	
	3-758-424-71	MANUAL, INSTRUCTION(CHINESE)(E)	
*	3-912-046-01	CUSHION	
**********			

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Ref. No.	Part No.	Description	Remark
		********** HARDWARE LIST **********	
#1	7-682-548-04	SCREW +BVTT 3X8 (S)	
#2	7-682-547-09	SCREW +BVTT 3X6 (S)	
#3	7-682-548-09	SCREW +BVTT 3X8 (S)	
#5	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S(E)	
#6	7-621-770-67	SCREW +BVTT 2.6X6 (S)	
#7	7-685-134-19	SCREW (+ PTPWH)(2.6X8)	
#11	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#12	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#13	7-621-775-10	SCREW +B 2.6X4	
#14	7-621-775-00	SCREW +B 2.6X3	
#15	7-623-921-01	RING, RETAINING, CAPSTAN	

9-959-400-11

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Consumer A&V Products Company
Home A&V Products Div.

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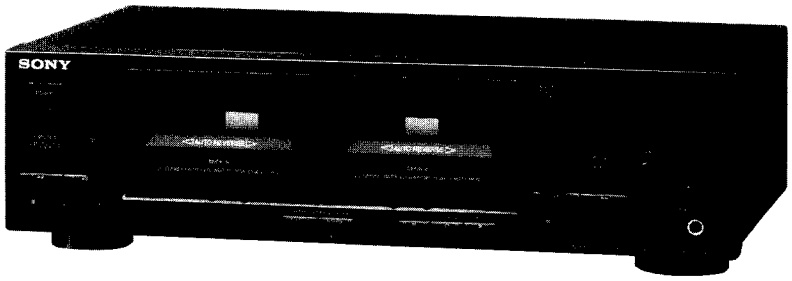
Quality Engineering Dept.

TC-WR445

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model



SPECIFICATIONS

Recording system	4-track 2-channel stereo
Fast winding time	Approx. 150 sec. (with Sony C-60 cassette)
Bias	AC bias

Signal-to-noise ratio (at peak level and weighted)

Cassette (Dolby NR OFF)	Type IV	Type II	Type I
	58 dB	57 dB	55 dB

S/N ratio improved (approximate values)
with Dolby B NR on: 5 dB at 1 kHz; 10 dB at 5 kHz
with Dolby C NR on: 15 dB at 500 Hz; 20 dB at 1 kHz

Harmonic distortion

0.4% (with Sony Type I, 160 nWb/m, 315 Hz, 3rd H.D.)
1.8% (with Sony Type IV, 250 nWb/m, 315 Hz, 3rd H.D.)

Frequency response (Dolby NR OFF)

Cassette / Model	Type IV cassette	Type II cassette	Type I cassette
TC-WR445	30 - 18,000 Hz (±3 dB, IEC) 30 - 13,000 Hz [±3 dB (-4 dB) recording]	30 - 17,000 Hz (±3 dB, IEC)	30 - 15,000 Hz (±3 dB, IEC)

Model Name Using Similar Mechanism		NEW
Tape Transport Machanism Type	DECK A	TCM-220WR1
	DECK B	

Type IV: Sony Type IV (METAL)
Type II: Sony Type II (HIGH)
Type I: Sony Type I (NORMAL)

Wow and flutter ±0.15% W.Peak (IEC)
0.1% W.RMS (NAB)
±0.2% W.Peak (DIN)

Inputs

Line inputs (phono jacks)	Sensitivity	0.16 V
	Input impedance	47 k ohms

— Continued on page 2 —

* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

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STEREO CASSETTE DECK

SONY

MICROFILM

Outputs

Line outputs (phono jacks)	Rated output level	0.5 V at a load impedance of 47 k ohms
	Load impedance	Over 10 k ohms
Headphones (stereo phone jack)	Output level	1 mW at a load impedance of 32 ohms

General

Power requirements — US, Canadian model : 120V AC, 60Hz
AEP, German, East European model : 220-230V AC, 50/60Hz
UK model : 240V AC, 50Hz
E model : 120, 220 or 240V AC adjustable, 50/60Hz
Australian model : 240V AC, 50/60Hz

Power consumption — 19 W

Dimensions — Approx. 430 × 123 × 305 mm (w/h/d) (17 × 4 7/8 × 12 1/8 inches) including projecting parts and controls

Mass — Approx. 4.0 kg (8 lbs 14 oz)

Supplied accessories

Audio connecting cords (2)

Optional accessories

Wireless remote commander RM-J902

Design and specifications are subject to change without notice.

TABLE OF CONTENTS

Section *Title* *Page*

Specifications ····· 1
Safety Check-out ····· 3

1. GENERAL
Identifying the Parts on the Front Panel ····· 4

2. DISASSEMBLY
2-1. Front Panel ····· 5
2-2. Mechanism Deck ····· 5
2-3. Audio board, Reel Motor ····· 6
2-4. Head (A), (B) Assy, Pinch Roller ····· 6

3. ADJUSTMENTS
3-1. Mechanical Adjustments ····· 7
3-2. Electrical Adjustments ····· 7

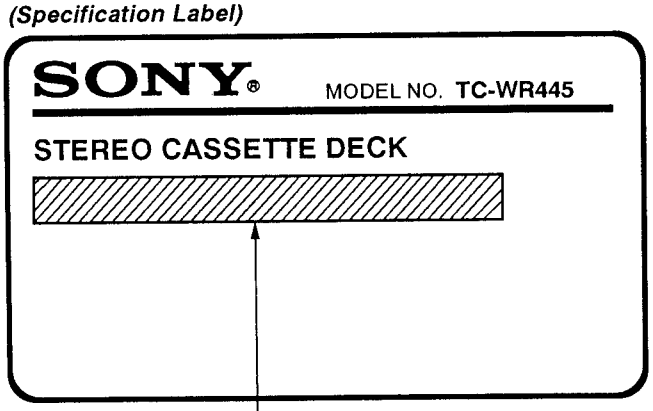
4. EXPLANATION OF IC TERMINALS ····· 11

5. DIAGRAMS
5-1. Block Diagram ····· 13
5-2. Circuit Board Location ····· 15
5-3. Printed Wiring Boards ····· 16
5-4. Schematic Diagram (System control Section) ····· 21
5-5. Schematic Diagram (Audio Section) ····· 26

6. EXPLODED VIEWS
6-1. Chassis Section ····· 30
6-2. Front Panel Section ····· 31

7. ELECTRICAL PARTS LIST ····· 32

MODEL IDENTIFICATION
(Specification Label)



US, Canadian model : AC 120V 60Hz
UK model : AC 240V 50Hz
Australian model : AC 240V~50/60Hz
AEP, German, East European model : AC 220-230V~50/60Hz
E model : AC120, 220, 240V~50/60Hz

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

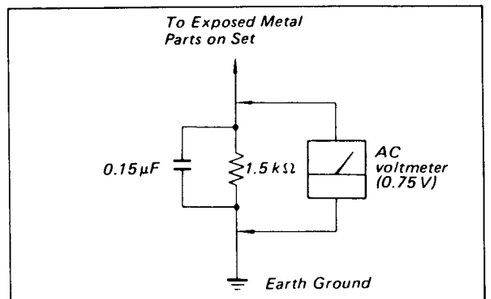


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

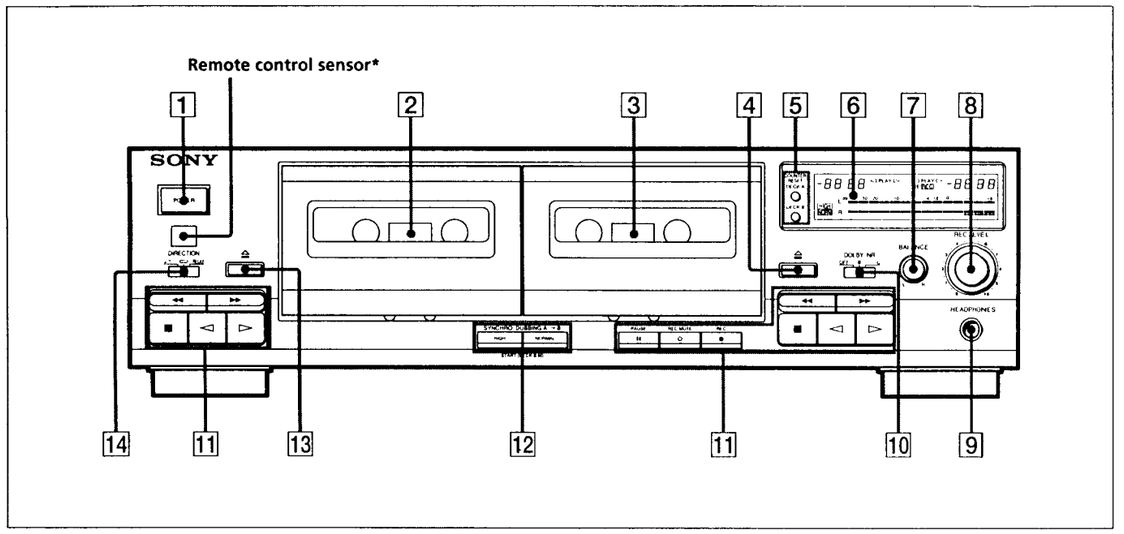
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

This section is extracted from instruction manual.

Identifying the Parts on the Front Panel



For details, refer to the page number(s) indicated in parentheses.

1 POWER switch
2 Deck A
3 Deck B
4 ⏏ (eject) button (deck B)
5 COUNTER RESET buttons (DECK A and B)
6 Display panel
7 BALANCE control (page 9)
8 REC (recording) LEVEL control (pages 9 and 10)
9 HEADPHONES jack (stereo phone jack)
10 DOLBY NR (Dolby noise reduction) switch (pages 7 and 9)
11 Tape operation buttons
- ❚❚ PAUSE button (deck B only)
- ○ REC MUTE (record muting) button (deck B only) (page 12)
- ● REC (recording) button (deck B only)
- ◀◀ (leftward fastwinding) button
- ▶▶ (rightward fastwinding) button
- ■ (stop) button
- ◁ (reverse play) button
- ▷ (forward play) button

12 SYNCHRO DUBBING buttons (page 11)
- HIGH button
- NORMAL button

13 ⏏ (eject) button (deck A)
14 DIRECTION mode switch (pages 7, 8, 9 and 11)

*Remote control sensor
You can remotely control this cassette deck with:
— A remote commander that came with a Sony amplifier or receiver if it has the R mark and cassette deck control capability.
— Any optional Sony remote commander with the R mark and cassette deck control capability.

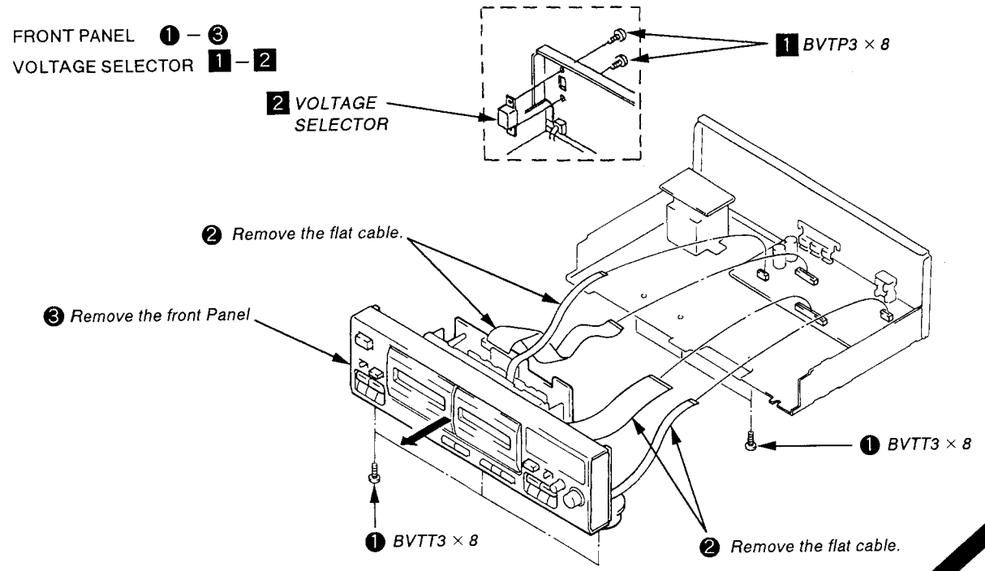
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

CASE
Unscrew the four case attachment screws M3 × 8 and remove the case.

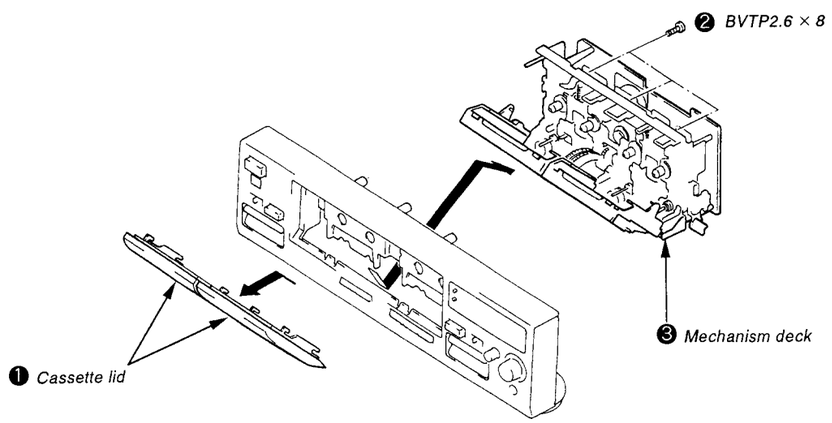
2-1. FRONT PANEL

FRONT PANEL ❶ – ❸
VOLTAGE SELECTOR 1 – 2

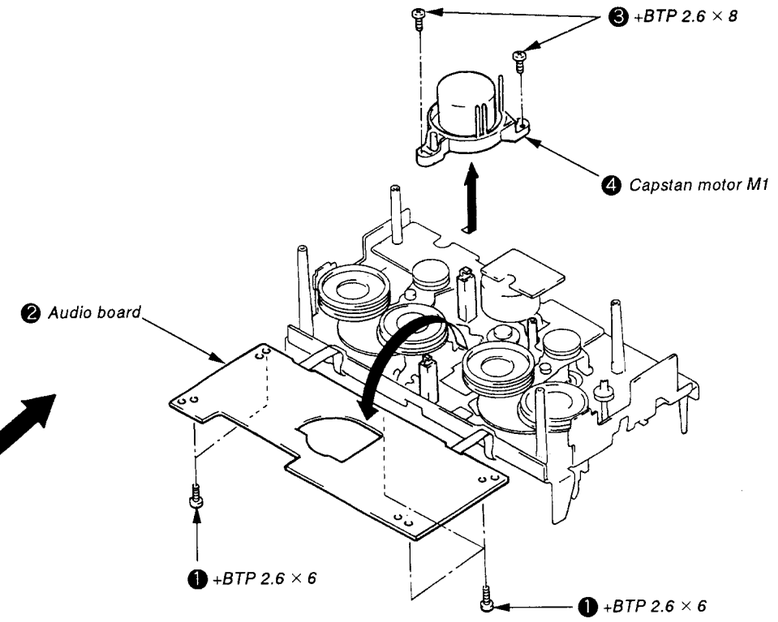


2-2. MECHANISM DECK

❶ Press the EJECT button.

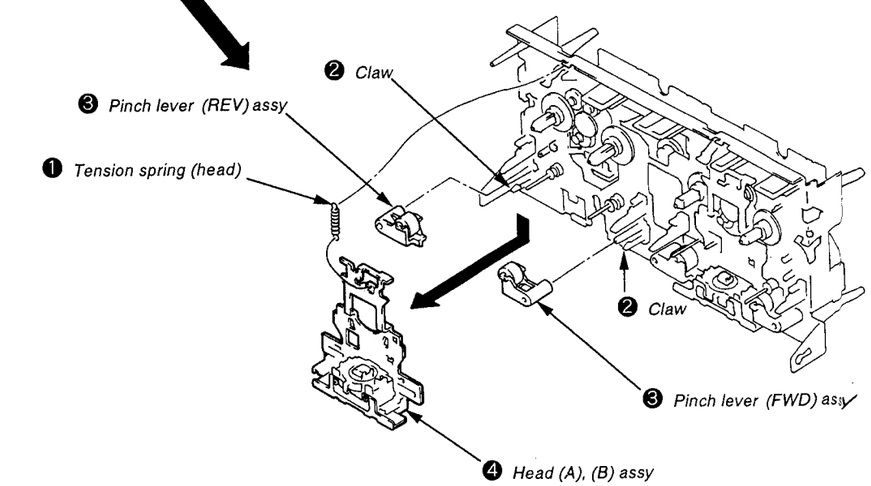


2-3. AUDIO BOARD, REEL MOTOR



2-4. HEAD (A), (B) ASSY, PINCH ROLLER

Remove the cassette holder



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback/erase head　　pinch roller
   rubber belts　　capstan
   idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

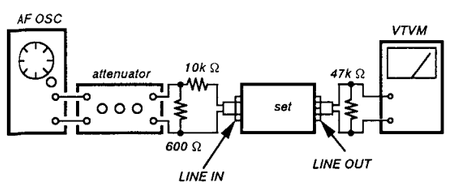
Torque	Torque meter	Meter reading
Forward	CQ-102C	28 to 60g • cm (0.39 to 0.83oz • inch)
Forward back tension	CQ-102C	2 to 6g • cm (0.028 to 0.083 oz • inch)
Reverse	CQ-102RC	28 to 60g • cm (0.39 to 0.83 oz • inch)
Reverse back tension	CQ-102RC	2 to 6g • cm (0.028 to 0.083 oz • inch)
FF/REW	CQ-201B	70 to 140g•cm (0.98 to 1.94 oz•inch)

3-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

1. The adjustment should be performed in the publication. (Be sure to male playback adjustment at first.)
2. The adjustments and measurement should be performed for both L-CH and R-CH.
   - Switch position
     DOLBY NR switch　　: OFF
     DIRECTION switch　　: ⇄
   - Standard record position :
     Deliver the standard input signal level to input jack and set the REC LEVEL control to obtain the standard output signal level as follows.

– Record Mode –



Standard Input Level

Input terminal	LINE IN
source impedance	10k Ω
input signal level	0.5V (– 3.8dB)

Standard Output Level

Output terminal	LINE OUT
load impedance	47k Ω
output signal level	0.5V (– 3.8dB)

Test Tape

Tape	Contents	Use
P-4-A100	10kHz, – 10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

0dB=0.775V

Test Mode

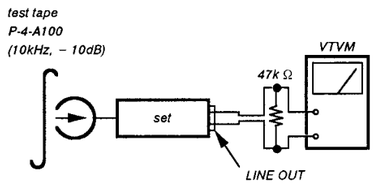
1. Insert a short-circuit plug into TP801 (2P) and turn ON the power switch. (Earth pin ㉖ of IC801 and turn ON the power switch.)
   At first, all the fluorescent tubes light up, then the system returns to normal display.
2. To release the test mode, remove the short plug and turn off the power switch.
3. Remove the short plug after completion of adjustment.

Record/Playback Head Azimuth Adjustment

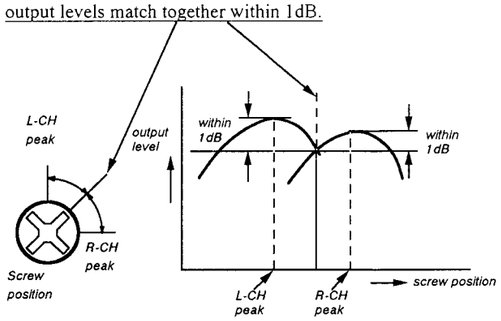
DECK-A DECK-B

Procedure :

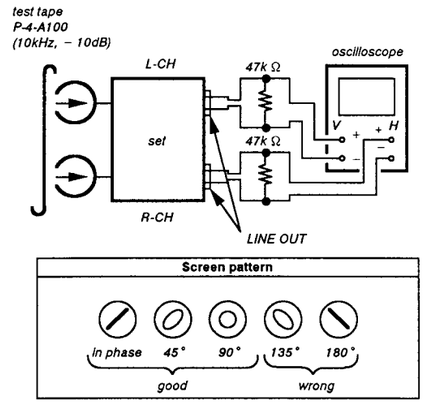
1. Forward playback Mode



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.

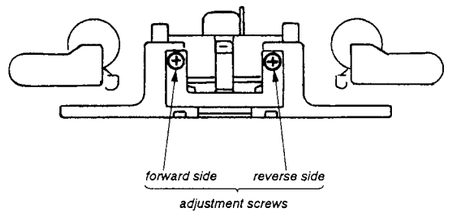


3. Playback Mode



4. Change the reveres playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screws with suitable locking compound.

Adjustment Location : – record/playback head –

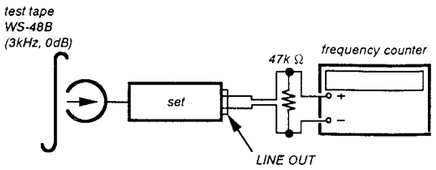


Tape Speed Adjustment

DECK-A DECK-B

Procedure :

– Forward Playback Mode –



(high speed adjustment)

1. Connect ㉖ pin of IC801 to ground.
2. Set to FWD playback mode.
3. Keep on pressing the SYNCRO DUBBING switch.
4. Adjust RV652 so that the frequency counter reading becomes 6,000 ± 20Hz.

(normal speed adjustment)

1. Set to FWD playback mode.
2. Adjust RV651 so that the frequency counter reeding becomes 3,000 ± 10Hz.

Frequency difference between the beginning and the end of the tape should be within 3%.
Frequency difference between the deck-A and deck-B the beginning of the tape should be within 1.5%.

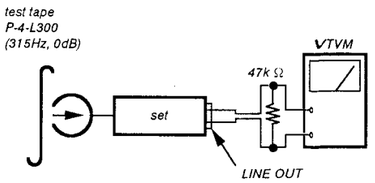
Adjustment Location : AUDIO board

Playback Level Adjustment

DECK-A DECK-B

Procedure :

– Forward Playback Mode –



Adjust deck-A is RV311(L-CH) and RV411(R-CH), deck-B is RV301(L-CH) and RV401(R-CH) so the VTVM reading becomes the adjustment limits below.

Adjustment Value :

LINE OUT level : – 7.7 ± 0.5dB (0.301 to 0.338 V)

Level difference between channels : within 0.5dB

Confirm the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

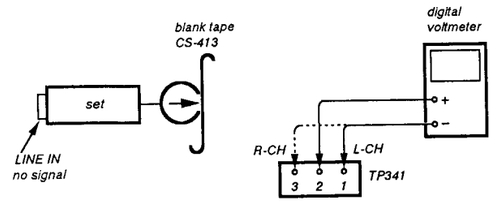
Adjustment Location : AUDIO board

Bias Consumption Current Adjustment DECK-B

This adjustment should be performed when replacing the head assy or the bias oscillating transformer (T341, T441).

Procedure :

( ) : R-CH



1. Connect the digital voltmeter to test point TP341.
2. Set RV341 (RV441) to mechanical center.
3. Set to FWD record mode.
4. Adjust T341 (T441) so that the digital voltmeter reading becomes minimum.

Adjustment Value : Maximum 220mV

Adjustment Location : AUDIO board

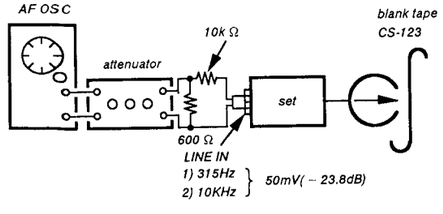
Record Bias Adjustment DECK-B

Setting :

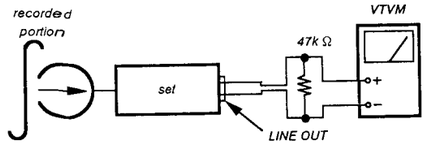
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



Confirm that the 10kHz playback output is 0 ± 0.5dB relative to the 315Hz output. If necessary, adjust RV341(L-CH), RV441(R-CH) and repeat the steps given above.

Adjustment Location : AUDIO board

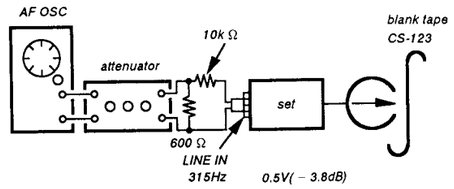
Record Level Adjustment DECK-B

Setting :

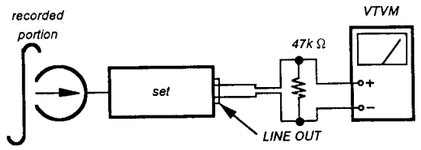
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



Confirm playback the tape recorded become adjustment level as follows.

If necessary, adjust RV101(L-CH), RV201(R-CH) and repeat the steps 1 and 2.

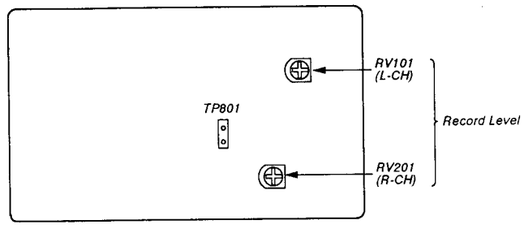
Adjustment Value :

LINE OUT level : – 3.8 ± 0.5dB (0.47 to 0.53V)

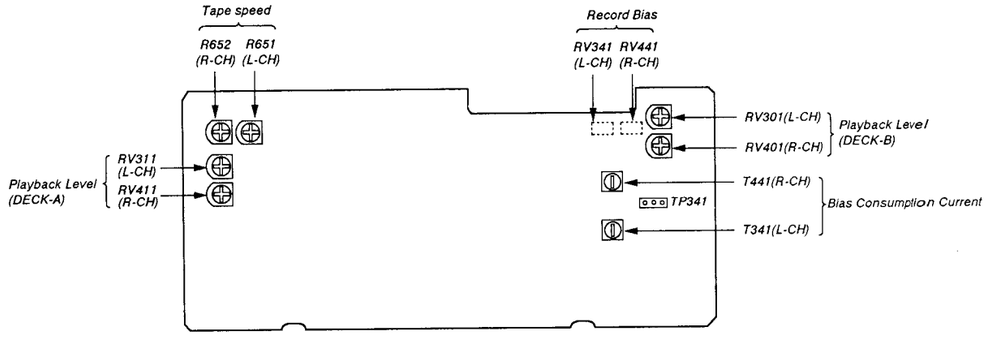
Adjustment Location : MAIN board

– Adjustment Parts Location Diagrams –

【MAIN BOARD】 (Component side)



【MD BOARD】 (Component side)



SECTION 4
EXPLANATION OF IC TERMINALS

M38122M2-063FP

Pin No.	Pin Name	I/O	Description
1	KEY4	I	Key input terminal.
2	METAL L	I	Meter L-CH input terminal.
3	METAL R	I	Meter R-CH input terminal.
4	AMS • IN	I	+5V
5	A • HALF	I	Half pawl input for DECK-A. "L" : Available
6	A • SHUT	I	T-side reel rotation detection at DECK-A.
7	A • SHUMIT	O	T-side reel rotation detection at DECK-A.
8	B • SHUT	I	T-side reel rotation detection at DECK-B.
9	B • SHUMIT	O	T-side reel rotation detection at DECK-B.
10	PB A/B	O	Playback A/B selector. "L" : DECK-A. "H" : DECK-B.
11	EQ H/L	O	Equalizer selector. "L" : Normal, "H" : High
12	REC MUTE	O	Recording mute ON/OFF. "L" : Mute ON. "H" : Mute OFF
13	REC/PB	O	Recording/Playback selector. "L" : REC, "H" : PB
14	LINE MUTE	O	Line/Meter mute terminal. "L" : Mute ON. "H" : Mute OFF
15	B • BIAS	O	Bias ON/OFF at B-deck. "L" : Bias ON. "H" : Bias OFF
16	SIRCS	I	Circs signal in terminal.
17	PW IN (2)	I	Power ON/OFF (2). "L" : Power OFF. "H" : Power ON
18	PW IN (1)	I	Power ON/OFF (1). "L" : Power OFF. "H" : Power ON
19	RESET	I	Reset terminal.
20	POWER OUT	O	Power ON/OFF "L" : Power hold
21	METAL	I	Metal tape selector terminal.
22	X IN	I	System clock input terminal (4MHz).
23	X OUT	O	System clock output terminal (4MHz).
24	GND	–	Power supply (GND)
25	B • RELAY	O	Recording/Playback selector at DECK-B. "L" : REC
26	TEST	I	Test mode terminal. "L" : Test mode
27	B • STOP	I	Mechanism stop switch input for DECK-B. "H" : ON
28	A • STOP	I	Mechanism stop switch input for DECK-A. "H" : ON
29	– 22V	O	VFD Power (– 22V).
30	S15	O	VFD Segment.
31	S14	O	VFD Segment.
32	S13	O	VFD Segment.
33	S12	O	VFD Segment.
34	S11	O	VFD Segment.
35	S10	O	VFD Segment.

Pin No.	Pin Name	I/O	Description
36	S9	O	VFD Segment.
37	S8	O	VFD Segment.
38	S7	O	VFD Segment.
39	S6	O	VFD Segment.
40	S5	O	VFD Segment.
41	S4	O	VFD Segment.
42	S3	O	VFD Segment.
43	S2	O	VFD Segment.
44	S1	O	VFD Segment.
45	G1	O	VFD Grid.
46	G2	O	VFD Grid.
47	G4	O	VFD Grid.
48	G5	O	VFD Grid.
49	G3	O	VFD Grid.
50	G7	O	VFD Grid.
51	G6	O	VFD Grid.
52	CAP • H/L	O	Capstan motor speed selector. "L" : High, "H" : Normal
53	CAP • ON/OFF	O	Capstan motor ON/OFF. "H" : OFF, "L" : ON
54	TRG • H/L	O	Trigger motor control.
55	A • TRG	O	Trigger motor control.
56	B • TRG	O	Trigger motor control.
57	Vcc	–	Power supply (+5V).
58	VEE	–	Power supply (– 24V).
59	AVss (GND)	–	Power supply (GND).
60	VREF	–	A/D Referance voltage (+5V).
61	B • HALF	I	Half pawl input for DECK-B. (REC pawl A/B side)
62	KEY1	I	Key input terminal.
63	KEY2	I	Key input terminal.
64	KEY3	I	Key input terminal.

PJ501-1 LINE IN

HP101 PLAYBACK HEAD (DECK-A)

HRPE101-1 PB/REC/ERASE HEAD (DECK-B)

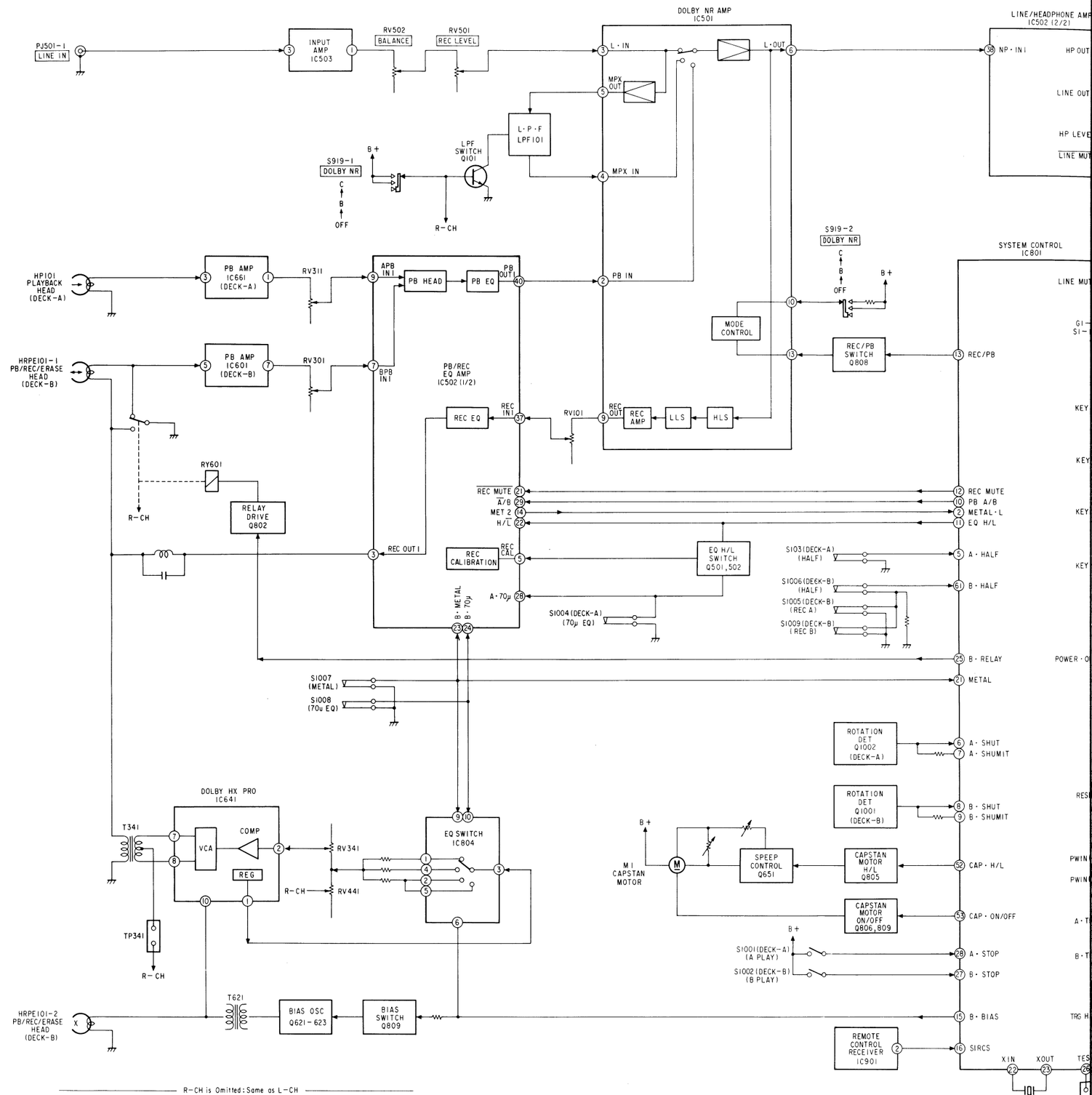
HRPE101-2 PB/REC/ERASE HEAD (DECK-B)

02

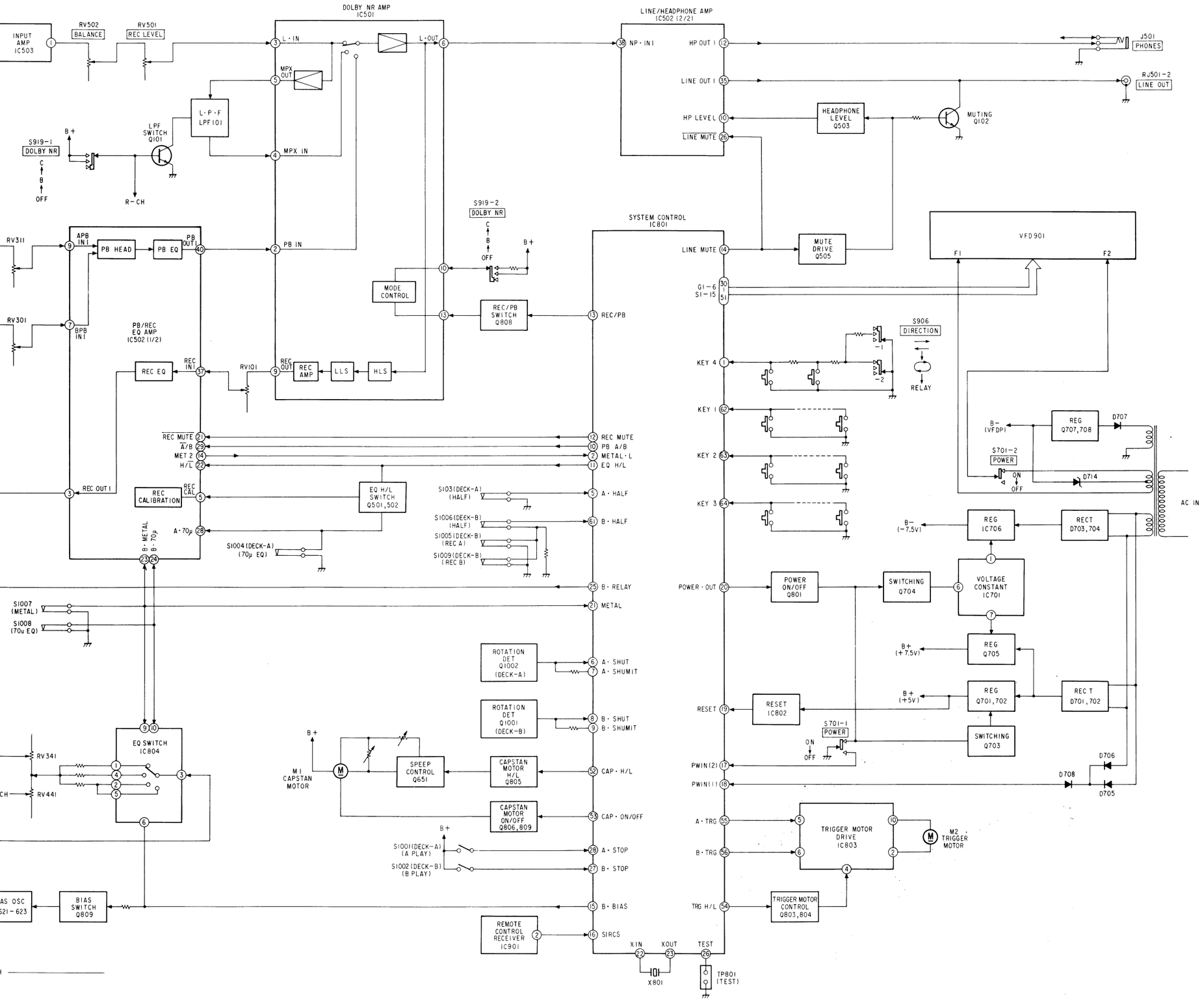
Pin Name	I/O	Description
S9	O	VFD Segment.
S8	O	VFD Segment.
S7	O	VFD Segment.
S6	O	VFD Segment.
S5	O	VFD Segment.
S4	O	VFD Segment.
S3	O	VFD Segment.
S2	O	VFD Segment.
S1	O	VFD Segment.
G1	O	VFD Grid.
G2	O	VFD Grid.
G4	O	VFD Grid.
G5	O	VFD Grid.
G3	O	VFD Grid.
G7	O	VFD Grid.
G6	O	VFD Grid.
CAP • H/L	O	Capstan motor speed selector. "L" : High, "H" : Normal
CAP • ON/OFF	O	Capstan motor ON/OFF. "H" : OFF, "L" : ON
TRG • H/L	O	Trigger motor control.
A • TRG	O	Trigger motor control.
B • TRG	O	Trigger motor control.
Vcc	–	Power supply (+5V).
VEE	–	Power supply (– 24V).
AVss (GND)	–	Power supply (GND).
VREF	–	A/D Referance voltage (+5V).
B • HALF	I	Half pawl input for DECK-B. (REC pawl A/B side)
KEY1	I	Key input terminal.
KEY2	I	Key input terminal.
KEY3	I	Key input terminal.

SECTION 5
DIAGRAMS

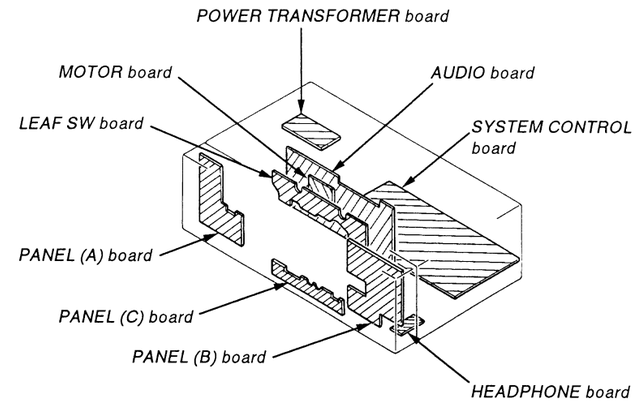
5-1. BLOCK DIAGRAM



SECTION 5
DIAGRAMS

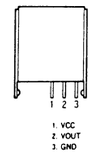


5-2. CIRCUIT BOARDS LOCATION

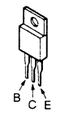


● SEMICONDUCTOR LEAD LAYOUTS

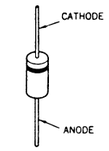
SBX1610-59



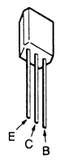
2SB1094-LK
2SD2012



1N4148M

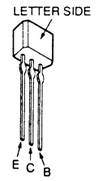


DTA114ES
DTA144ES
DTC114ES
DTC143TS
2SC2603-EF

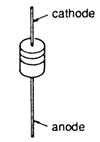


2SB1116A-L
2SC945-P
2SD1387

2SA1175-HFE



HZS6A1L
HZS6B3L
UZL-6L3
UZL-7L2
11ES2-NTA2B



5-3. PRINTED WIRING BOARDS

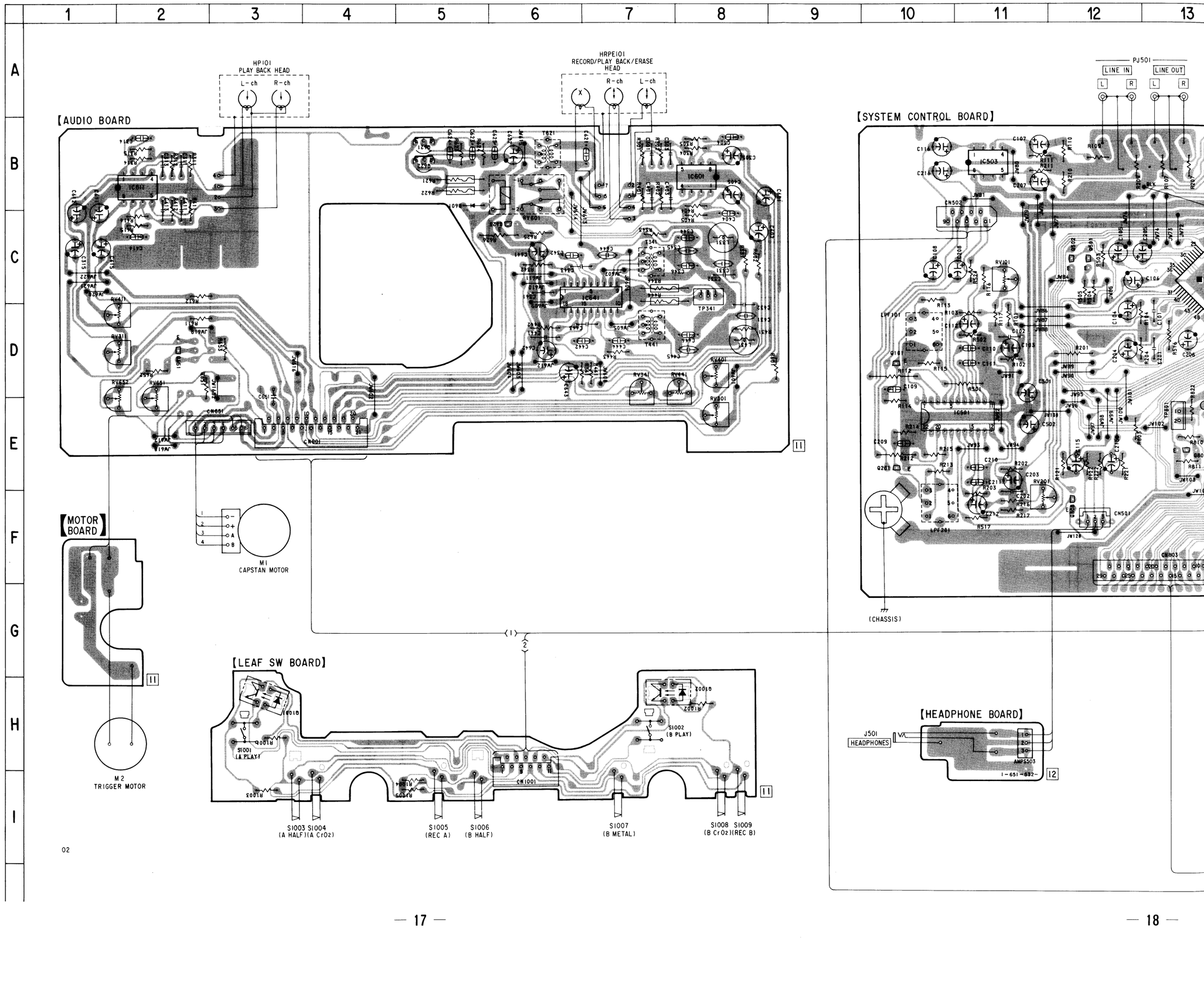
• Refer to page 15 for Semiconductor Lead Layouts.

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D101	E - 15	Q101	D - 10
D201	E - 15	Q102	B - 13
D501	B - 14	Q201	E - 10
D601	B - 5	Q202	B - 14
D701	C - 19	Q501	C - 12
D702	C - 19	Q502	C - 12
D703	B - 19	Q503	B - 15
D704	B - 19	Q505	B - 14
D705	C - 19	Q621	B - 5
D706	C - 19	Q622	B - 5
D707	C - 19	Q623	C - 6
D708	F - 19	Q651	D - 2
D709	B - 18	Q701	B - 18
D710	C - 17	Q702	B - 18
D711	B - 16	Q703	B - 19
D712	D - 18	Q704	B - 17
D713	D - 18	Q705	B - 17
D714	B - 18	Q706	B - 16
D715	B - 16	Q707	D - 18
D716	B - 16	Q708	D - 18
		Q801	F - 17
IC501	E - 11	Q802	E - 13
IC502	C - 13	Q803	E - 18
IC503	B - 11	Q804	E - 17
IC601	B - 8	Q805	E - 18
IC611	B - 2	Q806	D - 17
IC641	C - 7	Q807	E - 16
IC701	C - 17	Q808	F - 12
IC801	E - 14	Q809	D - 18
IC802	E - 13	Q1001	H - 3
IC803	E - 18	Q1002	H - 7
IC804	F - 18		
IC901	C - 21		

Note:

- O— : parts extracted from the component side.
- ▒▒▒ : Pattern on the side which is seen.



HRPE101
RECORD/PLAY BACK/ERASE HEAD
R-ch L-ch

【SYSTEM CONTROL BOARD】

PJ501
LINE IN L R
LINE OUT L R

(CHASSIS)

【PANEL (A) BOARD】

S901 S902 S903 S904 S905 S906 DIRECTION RELAY S701 POWER STANDBY ON 1-651-532- 12

【PANEL (B) BOARD】

S907 S909 R908 R906 R907 R915 S911 S912 R909 S919 DOLBY NR OFF B C S910 DECK A COUNTER RESET S918 DECK B CN902

【HEADPHONE BOARD】

J501 HEADPHONES AMPS503 1-651-532- 12

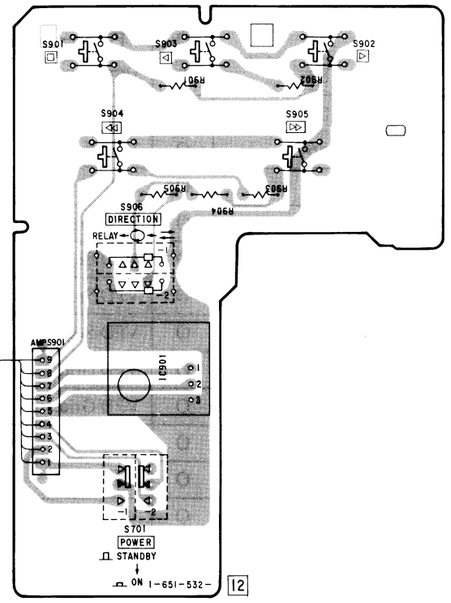
【PANEL (C) BOARD】

S917 HIGH S916 NORMAL SYNCHRO DUBBING A→B S914 PAUSE S915 REC MUTE S913 REC R914 R913 R912 R911 R910 CN904 1-651-532- 12

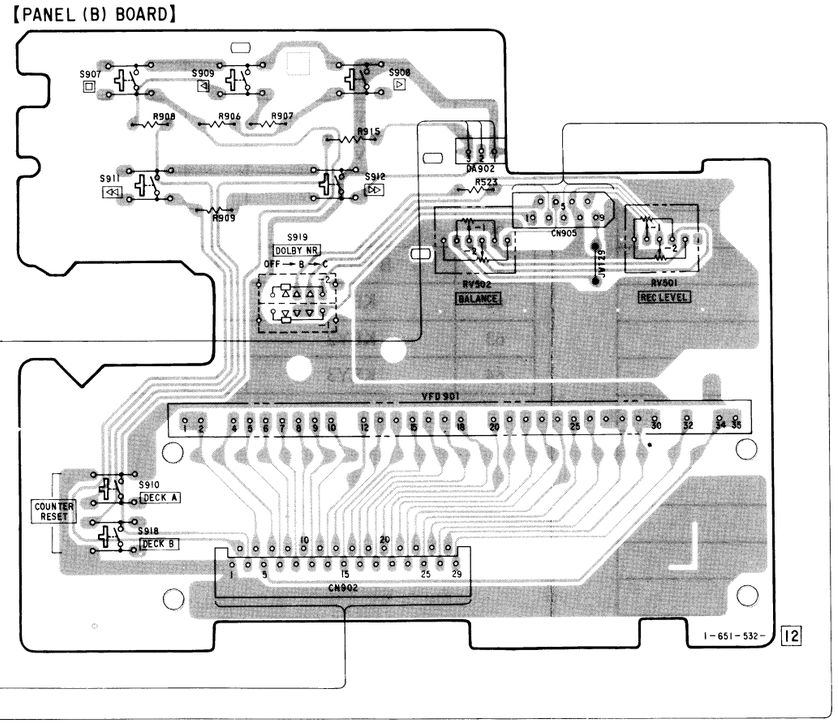
S1002 (B PLAY)
S1007 (B METAL)
S1008 S1009 (B CrO2)(REC B)

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

【PANEL (A) BOARD】

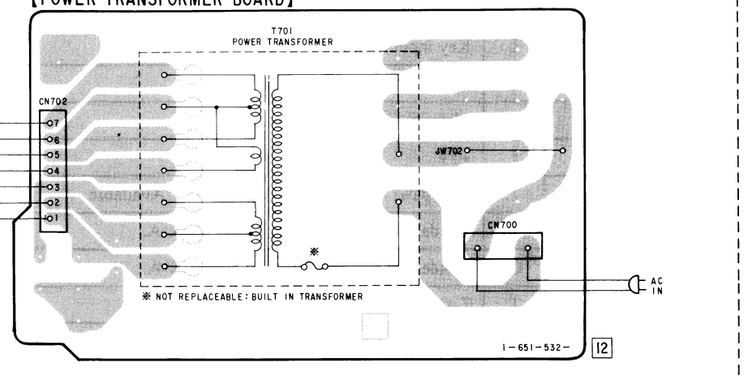


【PANEL (B) BOARD】



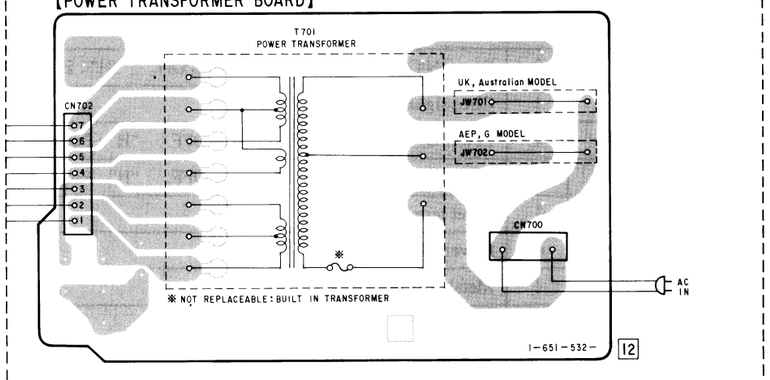
US, Canadian MODEL

【POWER TRANSFORMER BOARD】



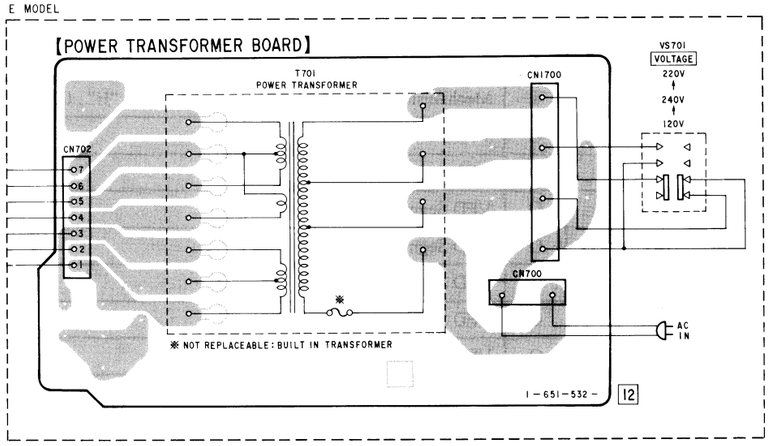
AEP, German, UK, Australian, East European MODEL

【POWER TRANSFORMER BOARD】



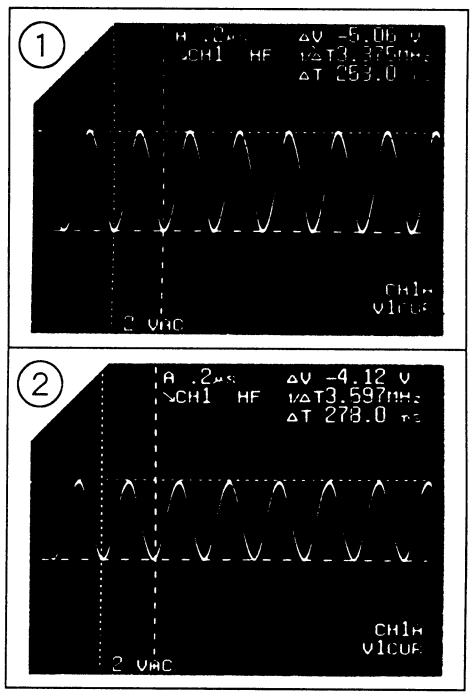
E MODEL

【POWER TRANSFORMER BOARD】



• Refer to page 29 for IC Block Diagrams.

• **WAVEFORMS**

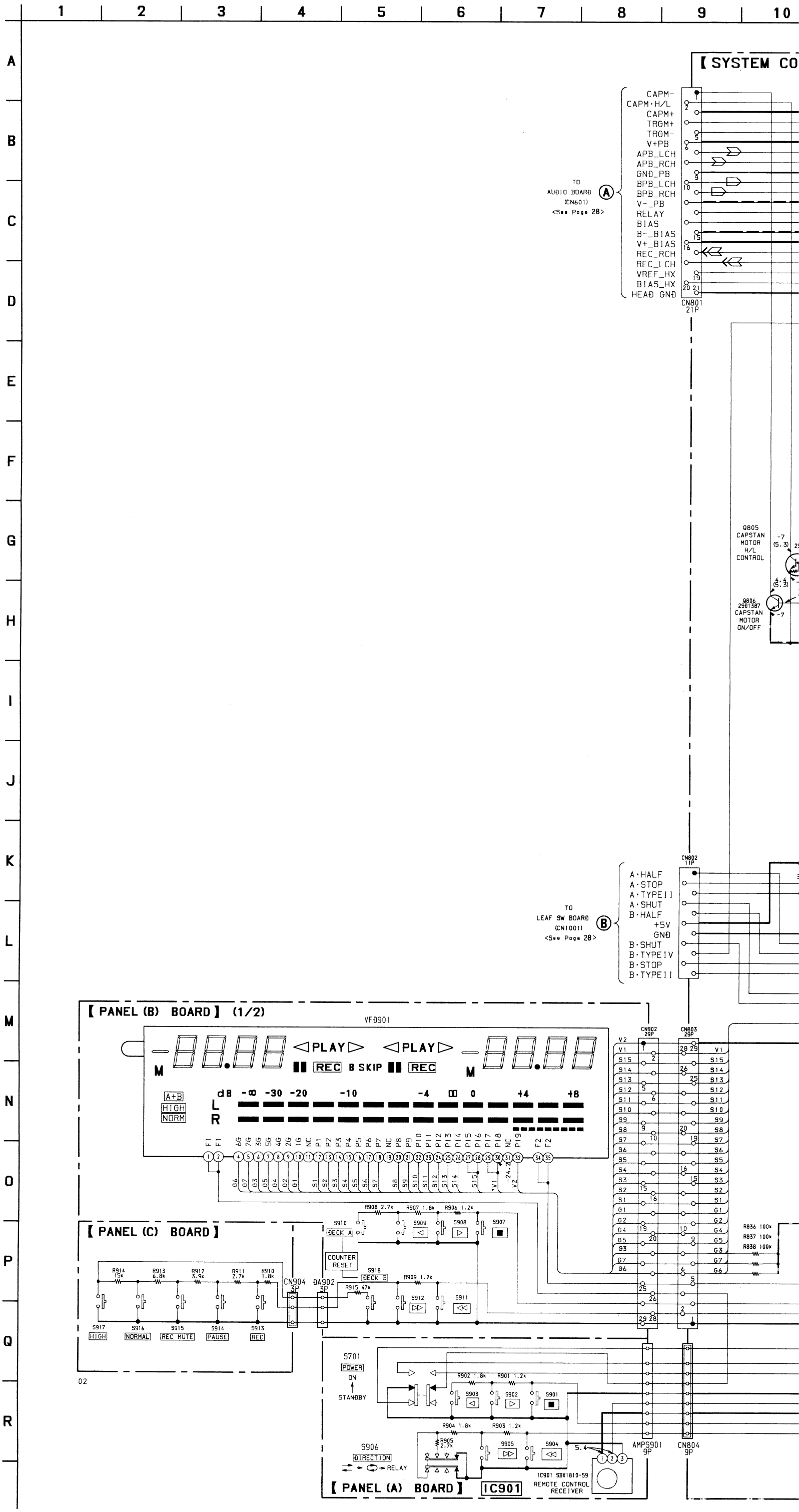


Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- : fusible resistor.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ Line
- : B − Line
- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : FM : PB (DECK A)
  : REC (DECK B)
  : PB (DECK B)
- Abbreviations
  G : German
  EE : East European



EM CONTROL BOARD]

IC803
TRIGGER MOTOR DRIVE

IC803 LB1641

IC802
RESET

IC802 PST600E-T

IC801
M38122M2-066FP
SYTSTEM CONTROL

IC804
BIAS SELECTOR

IC804 MC14052BCP

Q802 RELAY DRIVE

Q802 2SA1115

Q807 BIAS ON/OFF

Q807 2SC3901

Q808 REC/PB SWITCH

Q808 2SA1345

Q809 CAPST MOTOR ON/OFF

Q805 2SC3399

Q804 2SA1115

Q809 2SA1348

Q803, 804 TRIGGER H/L CONTROL

Q803 2SC3399

Q801 POWER ON/OFF

Q801 2SC3901

Q501, 502 EQ H/L SWITCH

Q502 2SA1348

Q501 2SC3402

Q503 HEADPHONE ON/OFF

Q503 2SC3901

IC701
VOLTAGE CONSTANT

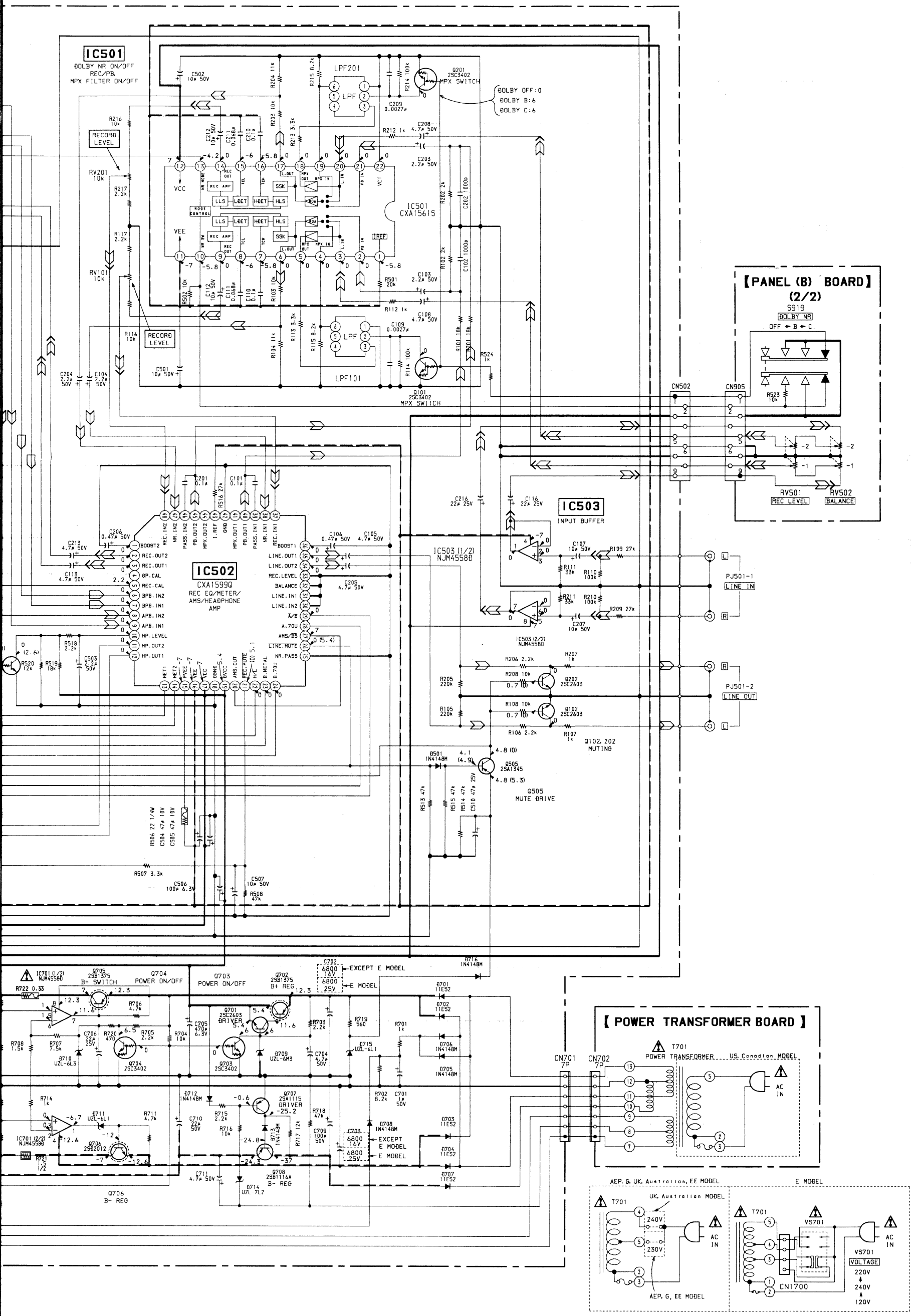
【HEADPHONE BOARD】

CN501 3P

AMPS503 3P

(CHASSIS)

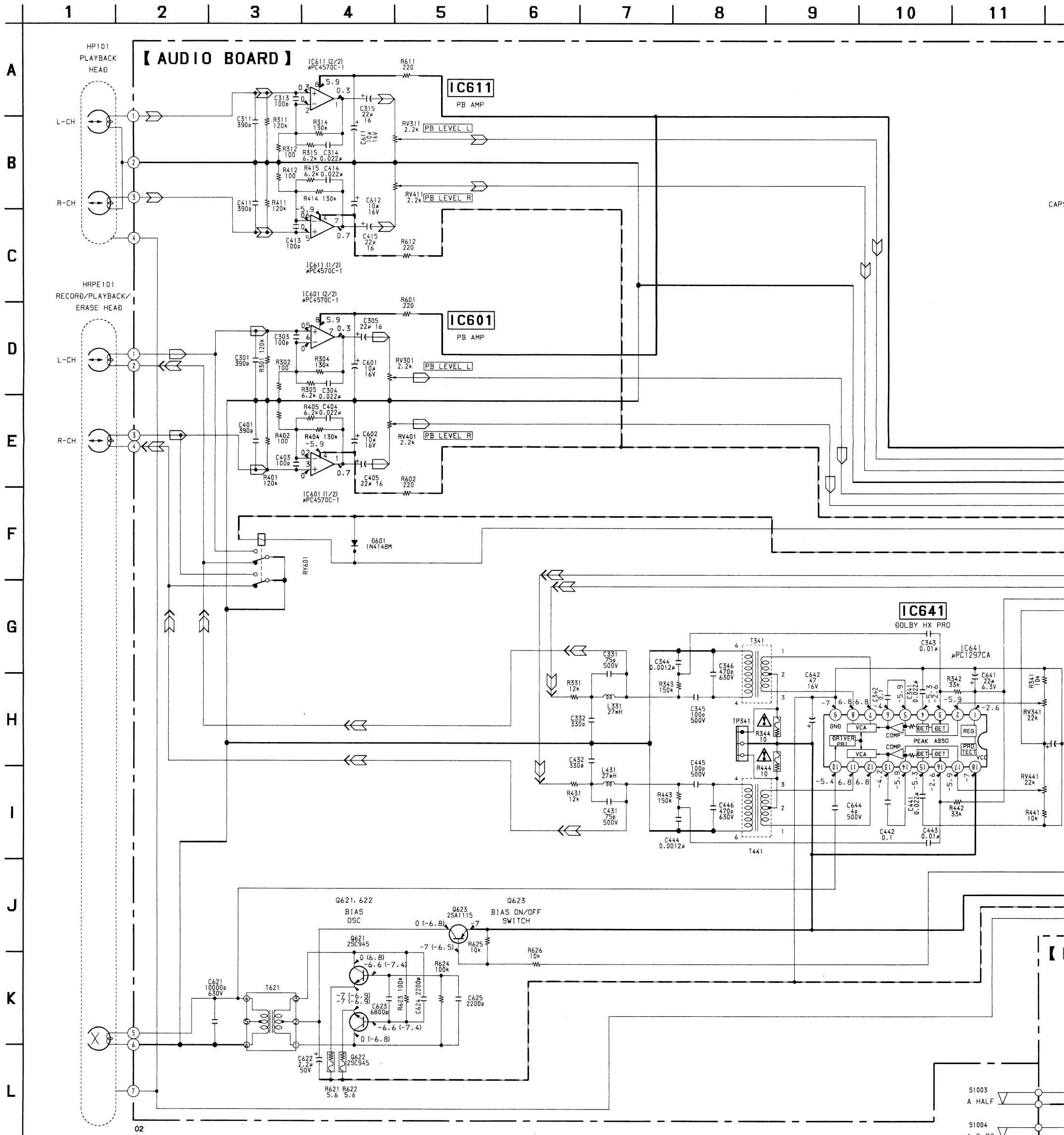
24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34

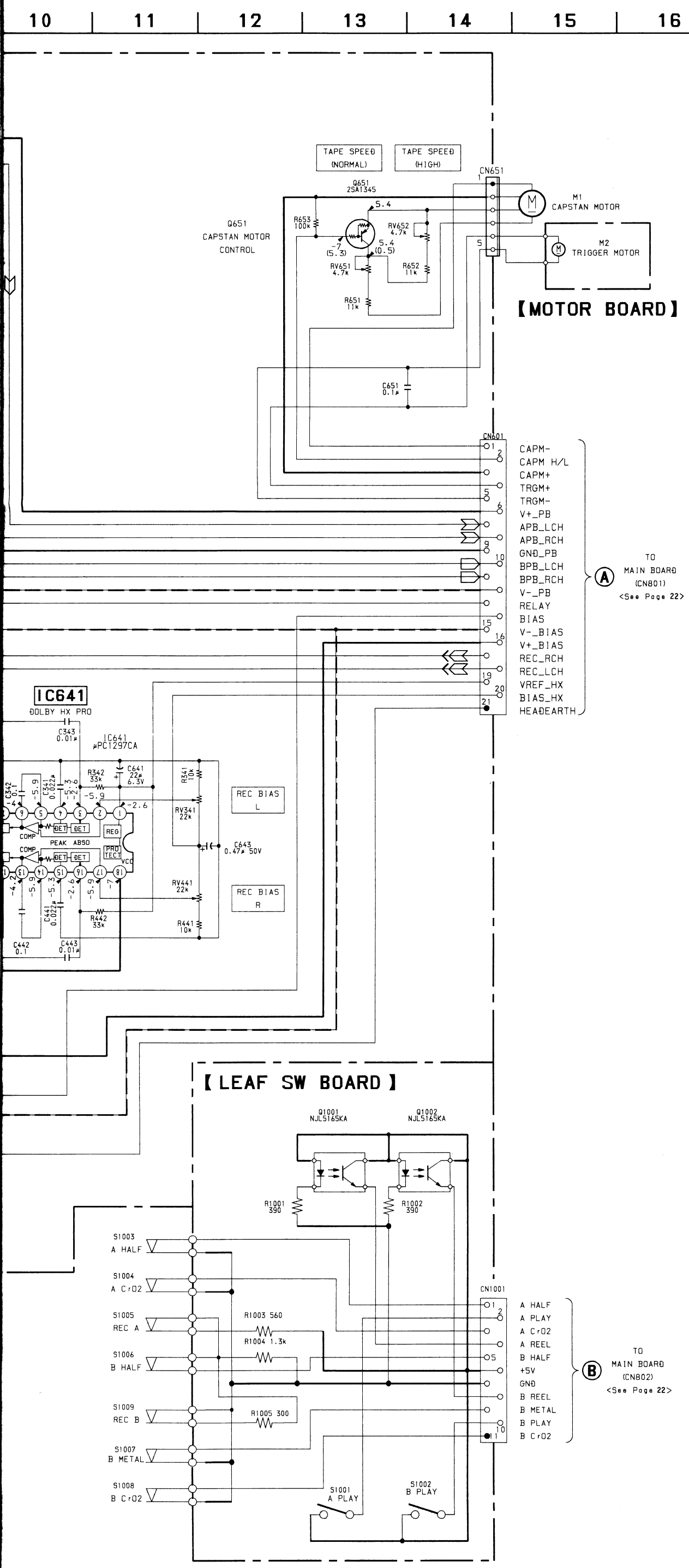


0180 /8255950

【BOARD】

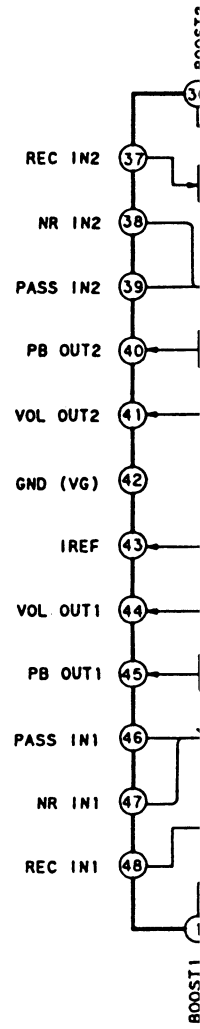
5-5. SCHEMATIC DIAGRAM (AUDIO SECTION)



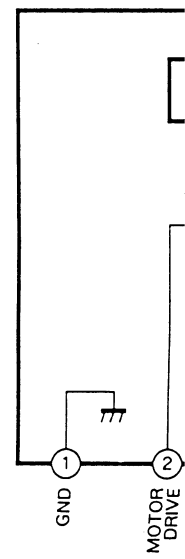


• IC BLOCK DIAGRAMS

IC502 CXA1599



IC803 LB1641



Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- : fusible resistor.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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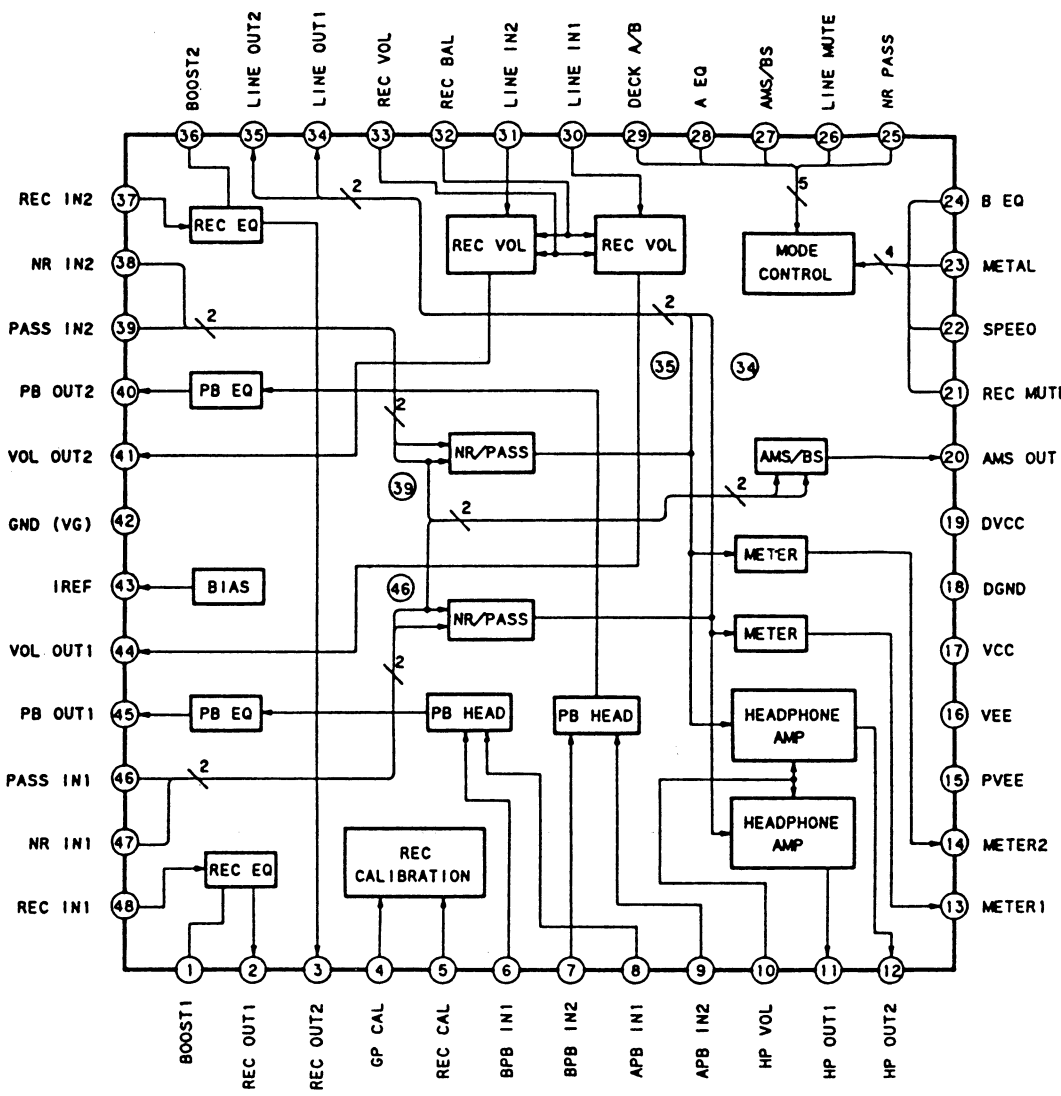
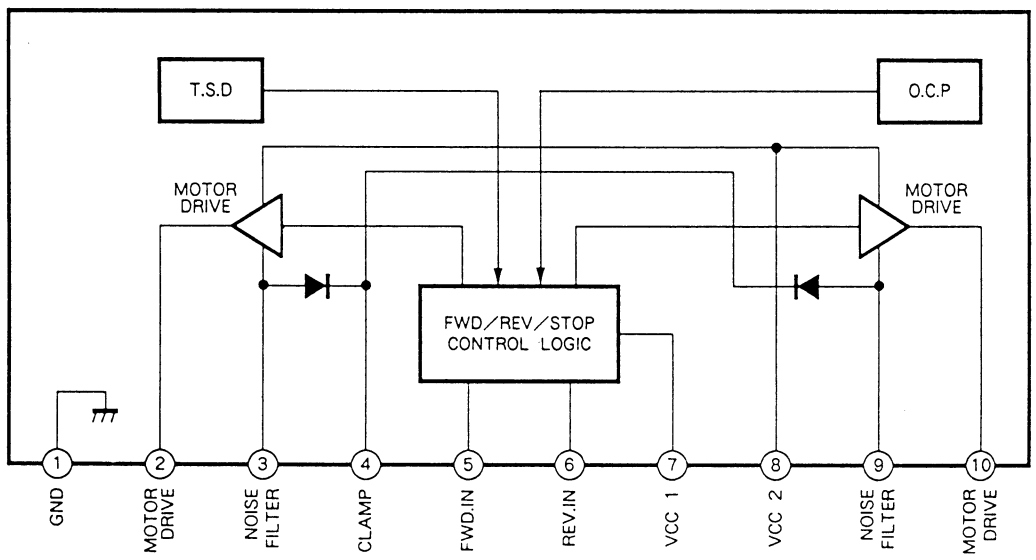
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : FM : PB (DECK A)
  : REC (DECK B)
  : PB (DECK B)

• IC BLOCK DIAGRAMS

IC502 CXA1599Q



IC803 LB1641



Note :

All capacitors are in μ F unless otherwise noted. pF: μ μ F
50WV or less are not indicated except for electrolytics and tantalums.
All resistors are in Ω and ¼W or less unless otherwise specified.
% : indicates tolerance.
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: fusible resistor.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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: B − Line
: adjustment for repair.

Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark : STOP
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Voltages are taken with a VOM (Input impedance 10M Ω).
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Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
Circled numbers refer to waveforms.
Signal path.
: FM : PB (DECK A)
: REC (DECK B)
: PB (DECK B)

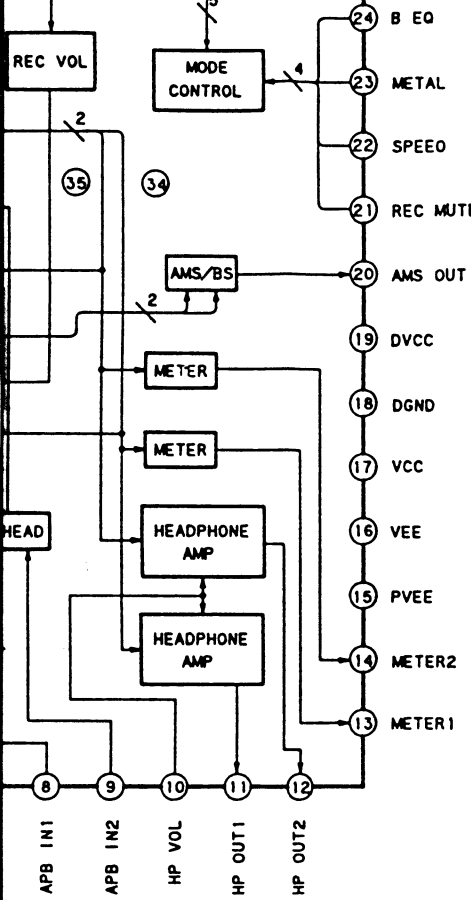
NOTE :
- -XX, -X mea
they may have
original one.
- The constructi
part are indi
number in the
- Items marked '
they are seldo
service. Some
pated when ord

6-1. CHASSIS

▲ A : POWER

2

Ref. No.	Part No
1	3-332-5
2	3-704-3
* 3	A-2007-
* 3	A-2007-
* 3	A-2007-
* 3	A-2007-
* 4	3-910-5
* 4	3-910-5
* 4	3-910-5
* 4	3-910-5
* 5	3-703-2
* 5	3-703-5
⚠6	1-558-9
⚠6	1-575-6



SECTION 6
EXPLODED VIEWS

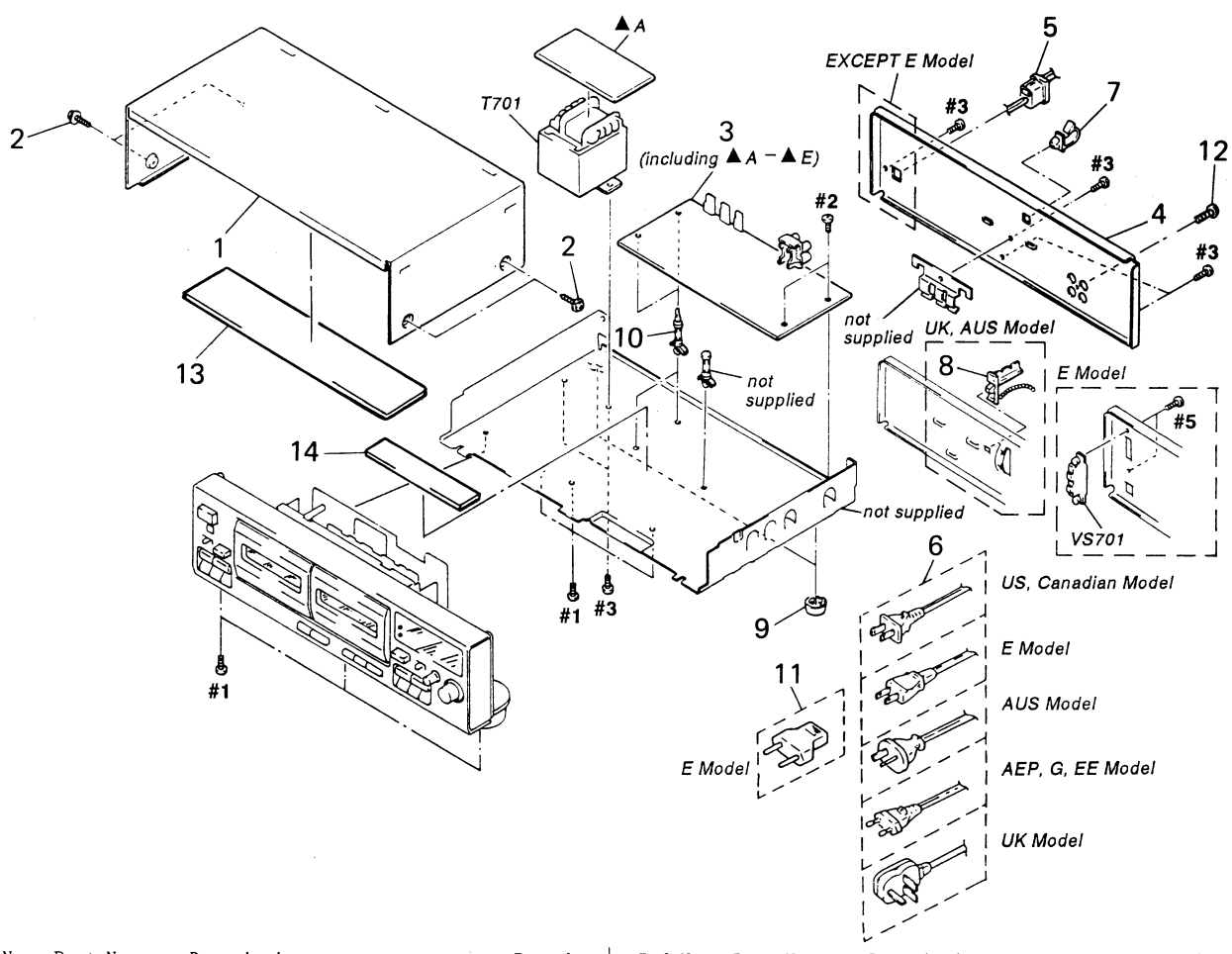
NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviations
  - G : German model
  - AUS : Australian model
  - EE : East European model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS SECTION

▲A : POWER TRANSFORMER BOARD



Ref. No.	Part No.	Description	Remark
1	3-332-578-61	CASE	
2	3-704-366-01	SCREW (CASE) (M3X8)	
* 3	A-2007-164-A	SYSTEM CONTROL BOARD, COMPLETE(E)	
* 3	A-2007-165-A	SYSTEM CONTROL BOARD, COMPLETE (UK, AUS)	
* 3	A-2007-166-A	SYSTEM CONTROL BOARD, COMPLETE (AEP, G, EE)	
* 3	A-2007-167-A	SYSTEM CONTROL BOARD, COMPLETE (US, Canadian)	
* 4	3-910-564-01	PANEL, BACK(US, Canadian)	
* 4	3-910-564-11	PANEL, BACK(AEP, G, EE)	
* 4	3-910-564-21	PANEL, BACK(UK, AUS)	
* 4	3-910-564-31	PANEL, BACK(E)	
* 5	3-703-244-00	BUSHING (2104), CORD (AEP, UK, G, EE, AUS)	
* 5	3-703-571-11	BUSHING (S) (4516), CORD(US, Canadian, E)	
⚠6	1-558-945-21	CORD, POWER (POLAR. SPT-1)(US, Canadian)	
⚠6	1-575-651-21	CORD, POWER(AEP, G, EE)	
⚠6	1-575-653-21	CORD, POWER(E)	
⚠6	1-696-586-11	CORD, POWER(UK)	
⚠6	1-696-845-11	CORD, POWER(AUS)	
* 7	4-949-235-01	HOOK(US, Canadian, AEP, E, G, EE)	
8	4-956-370-02	BAND, PLUG FIXED(UK, AUS)	
9	4-930-848-01	FOOT	
* 10	3-346-265-11	HOLDER, PC BOARD	
11	1-569-007-11	ADAPTER, CONVERSION 2P(E)	
12	3-704-515-01	SCREW (BV/RING)	
* 13	3-917-191-01	ABSORBENT (A), VIBRATION	
* 14	3-917-192-01	ABSORBENT (B), VIBRATION	
⚠T701	1-426-811-11	TRANSFORMER, POWER(E)	
⚠T701	1-426-812-11	TRANSFORMER, POWER(US, Canadian)	
⚠T701	1-426-813-11	TRANSFORMER, POWER (AEP, UK, G, EE, AUS)	
⚠VS701	1-692-155-11	SELECTOR, POWER VOLTAGE (VOLTAGE SELECTOR)(E)	

TC-WR445

SONY

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

SUPPLEMENT-2

File this Supplement with the Service Manual.

Subject : 1. EXPLODED VIEWS
(CHASSIS SECTION)
2. CHANGE OF SYSTEM CONTROL, PANEL (C), HEADPHONE, POWER TRANSFORMER, PANEL (A) AND PANEL (B) BOARDS

(ECN-TC400425)

9-959-400-82

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

English
95D02109-1
Printed in Japan
© 1995.4
Published by Home A&V Products Div.
Quality Engineering Dept.

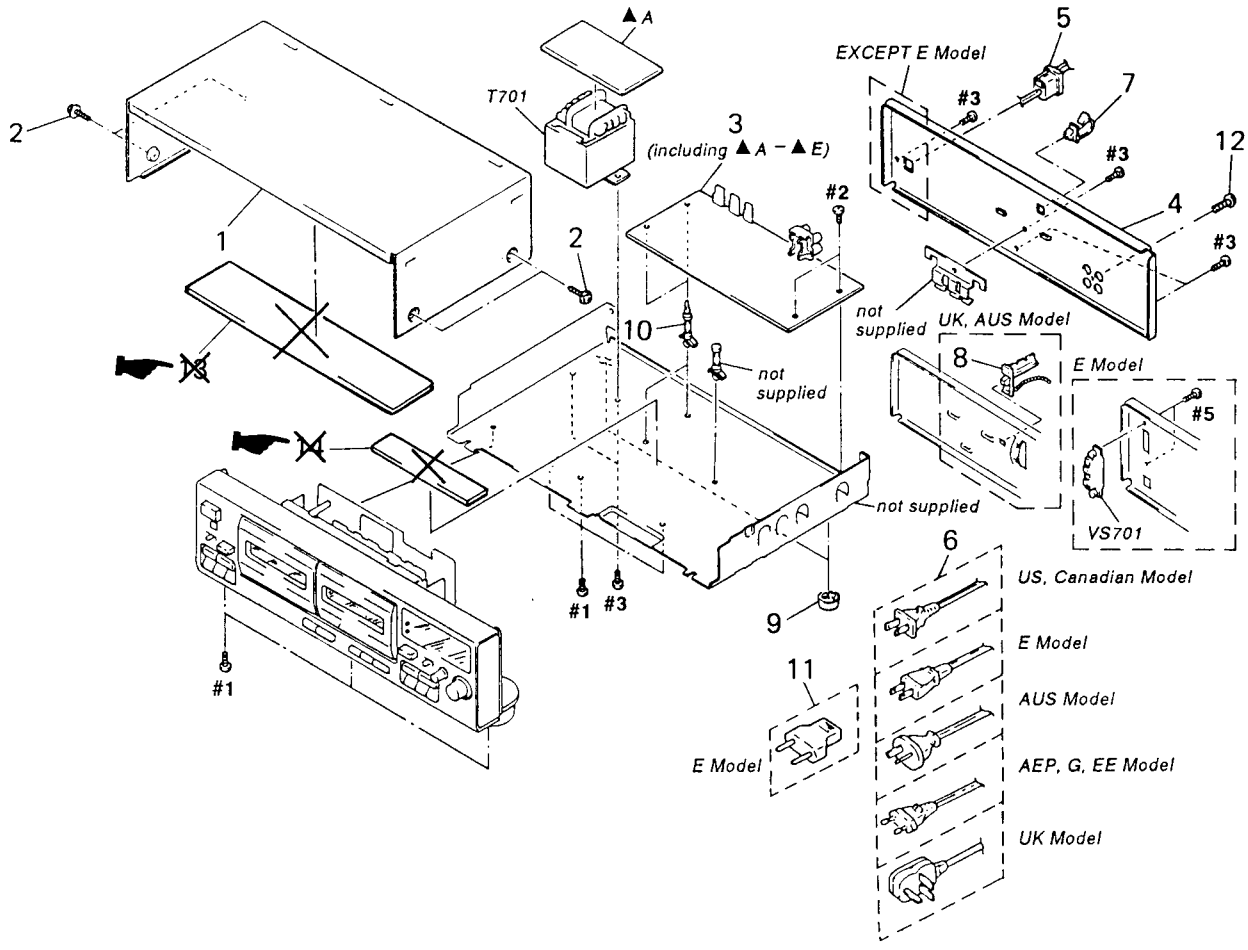
1. EXPLODED VIEWS

☛ : Indicates changed portion

Page 30

6-1. CHASSIS SECTION

▲A : POWER TRANSFORMER BOARD



	Former Type		New Type	
Ref. No.	Part No.	Description	Part No. Description	Remark
13	3-917-191-01	ABSORBENT (A), VIBRATION	————————————	Deleted
14	3-917-192-01	ABSORBENT (B), VIBRATION	————————————	Deleted

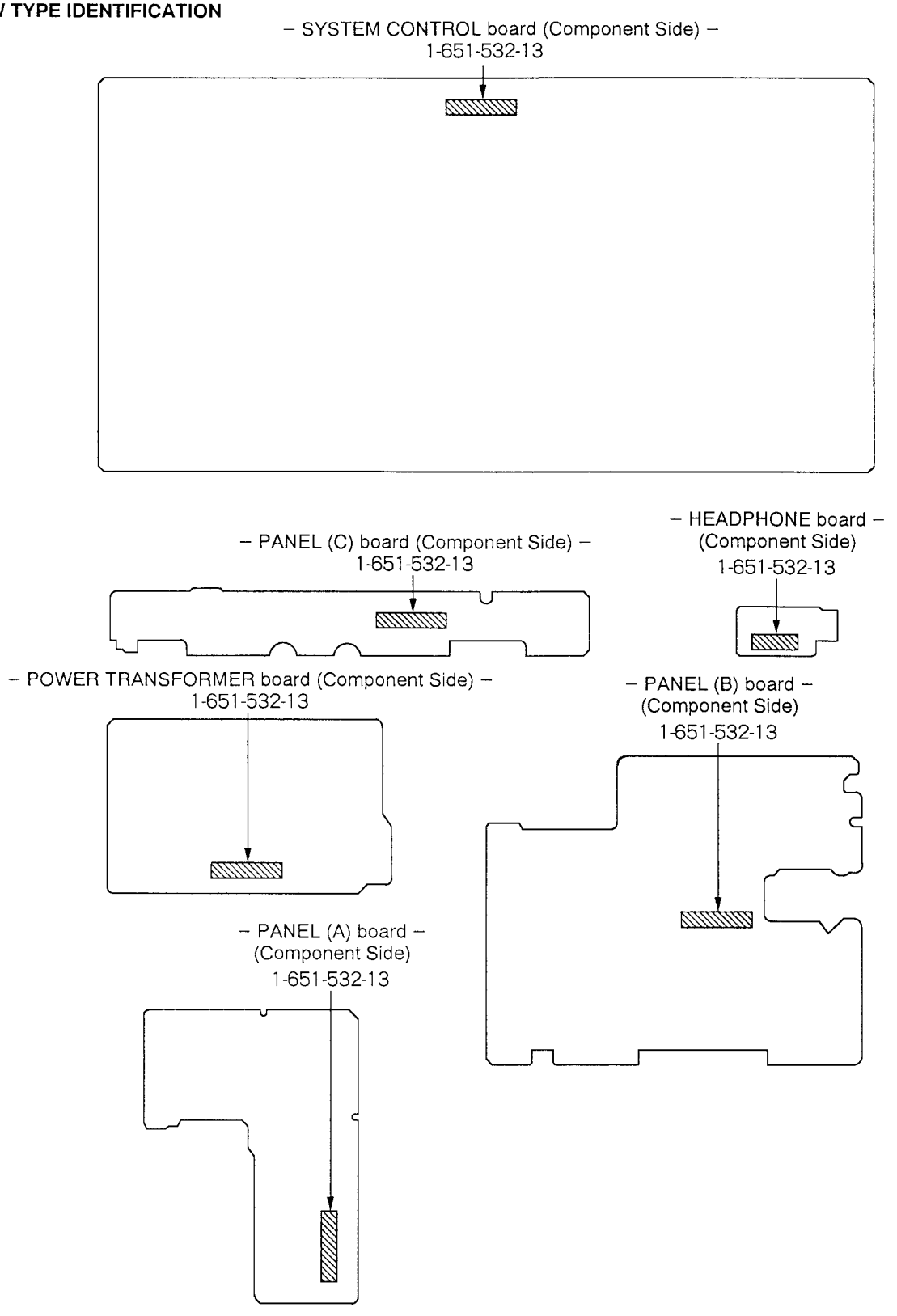
2. CHANGE OF SYSTEM CONTROL, PANEL (C), HEADPHONE, POWER TRANSFORMER, PANEL (A) and PANEL (B) BOARDS

The system control board, panel (C) board, headphone board, power transformer board, panel (A) board and panel (B) board have been changed.

Printed wiring boards of new type are described in this Supplement-2.

Refer to original service manual and supplement-1 previously issued for the other information.

NEW TYPE IDENTIFICATION



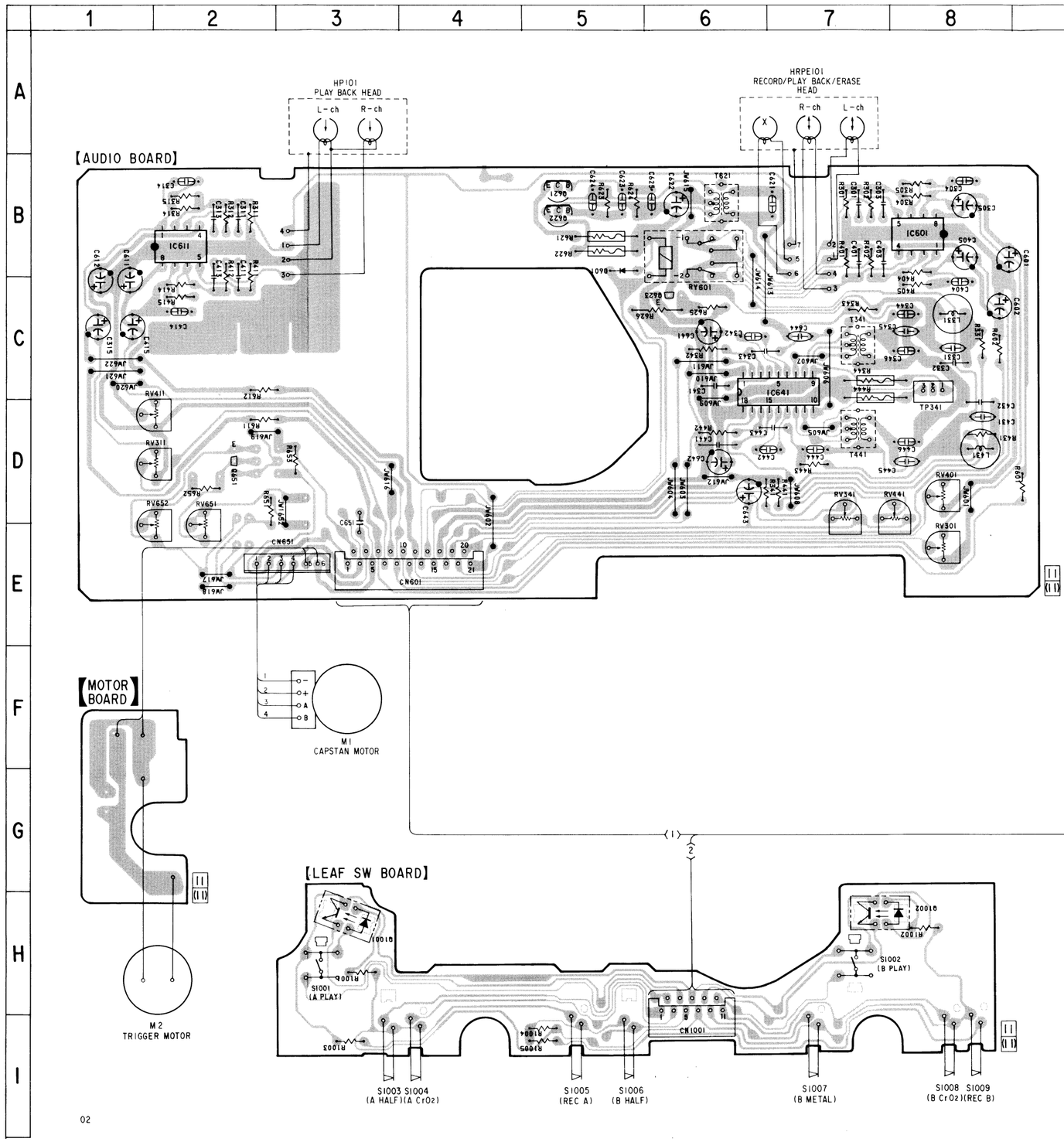
• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D101	E - 15	Q101	D - 10
D201	E - 15	Q102	B - 13
D501	B - 14	Q201	E - 10
D601	B - 5	Q202	B - 14
D701	C - 19	Q501	C - 12
D702	C - 19	Q502	C - 12
D703	B - 19	Q503	B - 15
D704	B - 19	Q505	B - 14
D705	C - 19	Q621	B - 5
D706	C - 19	Q622	B - 5
D707	C - 19	Q623	C - 6
D708	F - 19	Q651	D - 2
D709	B - 18	Q701	B - 18
D710	C - 17	Q702	B - 18
D711	B - 16	Q703	B - 19
D712	D - 18	Q704	B - 17
D713	D - 18	Q705	B - 17
D714	B - 18	Q706	B - 16
D715	B - 16	Q707	D - 18
D716	B - 16	Q708	D - 18
		Q801	F - 17
IC501	E - 11	Q802	E - 13
IC502	C - 13	Q803	E - 18
IC503	B - 11	Q804	E - 17
IC601	B - 8	Q805	E - 18
IC611	B - 2		
		Q806	D - 17
IC641	C - 7	Q807	E - 16
IC701	C - 17	Q808	F - 12
IC801	E - 14	Q809	D - 18
IC802	E - 13	Q1001	H - 3
IC803	E - 18		
		Q1002	H - 7
IC804	F - 18		
IC901	C - 21		

Note:

- O— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ▒ : Pattern on the side which is seen.

• PRINTED WIRING BOARDS



02

HRPE101
RECORD/PLAY BACK/ERASE HEAD
R-ch L-ch

【SYSTEM CONTROL BOARD】

PJ501
LINE IN L R
LINE OUT L R

【PANEL (A) BOARD】

【PANEL (B) BOARD】

【PANEL (C) BOARD】

【HEADPHONE BOARD】

J501
HEADPHONES

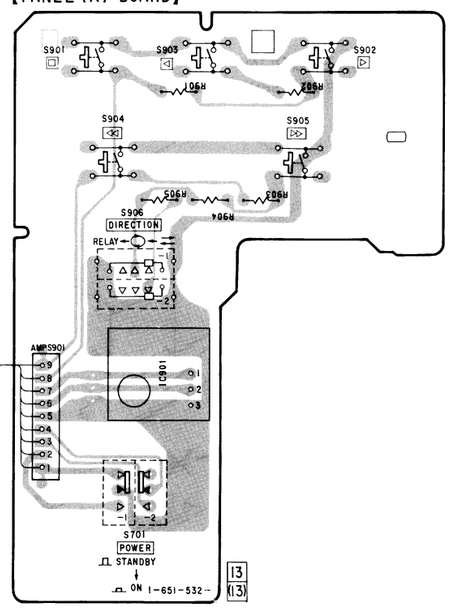
S1002
(B PLAY)

S1007
(B METAL)

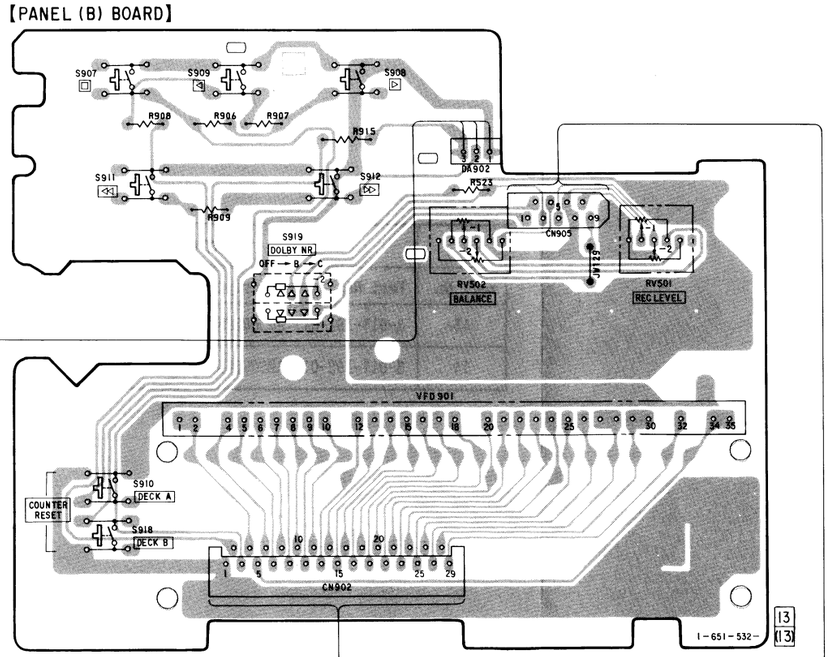
S1008 S1009
(B CrO2)(REC B)

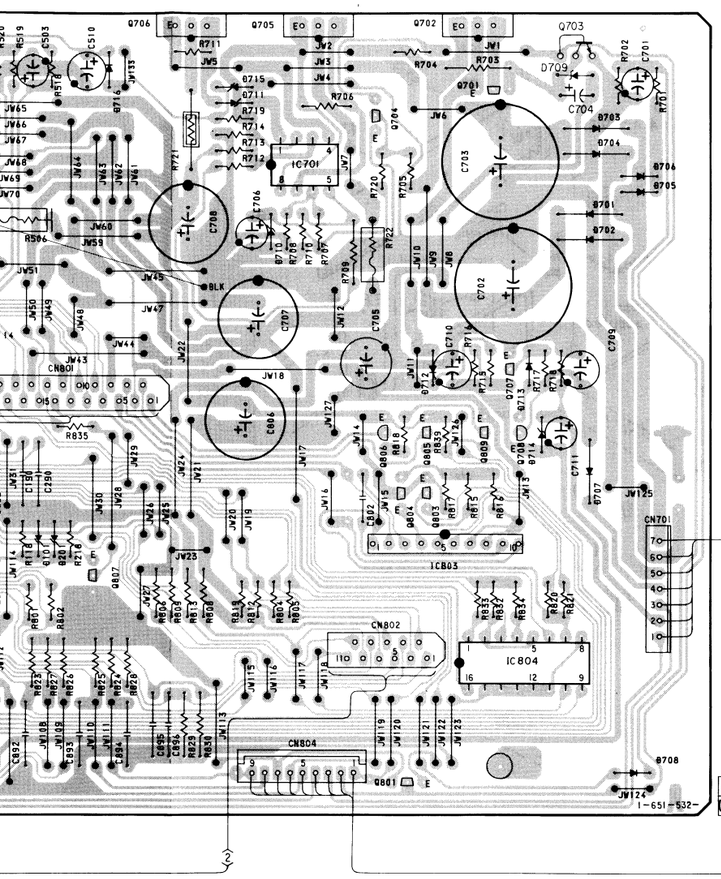
(CHASSIS)

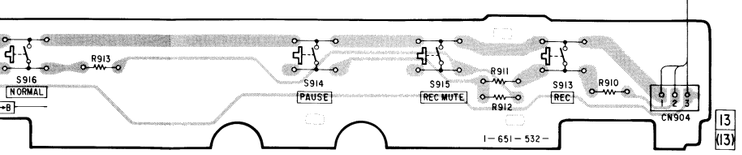
【PANEL (A) BOARD】



【PANEL (B) BOARD】

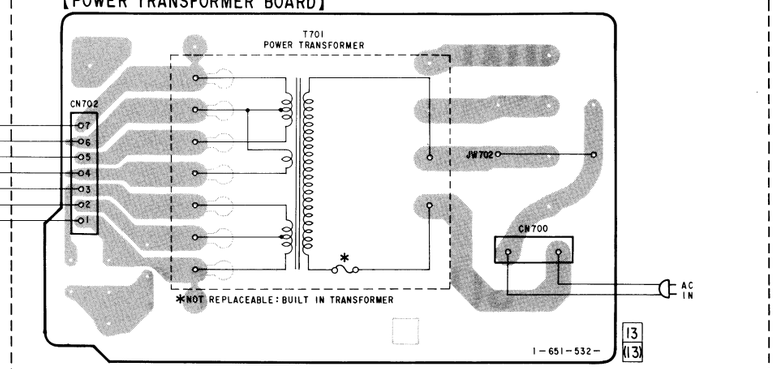






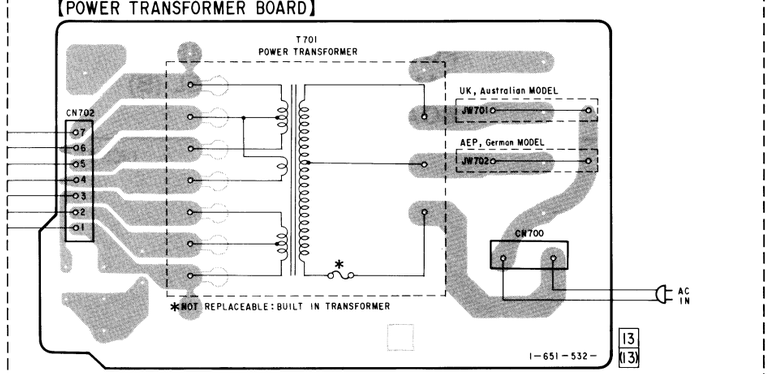
US, Canadian MODEL

【POWER TRANSFORMER BOARD】



AEP, German, UK, Australian, East European MODEL

【POWER TRANSFORMER BOARD】



E MODEL

【POWER TRANSFORMER BOARD】